```
Command line parameters:
-MODEL-frame+_D2n.model -DEV-x1p
-MODEL-frame+_D2n.model -DEV-x1p
-Q-Cgp2_1/USPTO_Spool_US09874198/runat_22012003_085000_10851/app_query.fasta_1.839
-DB-GenEmb1 -QFMT-fastap -SUFFIX-p2n..gg -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT-0
-UNITS-bits -START-1 -END--1 -MATRIX-biDosum62 -TRANS-Human40.cdi -LIST-75
-DCCALIGN-200 -THR_SCORE-pct -THR_MAX=100 -THR_MIN-0 -ALIGN-25 -MODE-LOCAL
-OUTFMT-pto -NORM-ext -HEAPSIZE-500 -MINLEN-0 -MAXLEN-200000000
-USER-US09874198_@CGN_11_1_3637_@runat_22012003_085000_10851 -NCPU-6 -ICPU-3
-NO_XLPXY -NO_MMAP -LARGEQUERY -NEG_SCORES-0 -WART -LONGLOG -DEV_TIMEOUT-120
-WARN_TIMEOUT-30 -THREADS-1 -XGAPOP-10 -XGAPEXT-0.5 -FGAPOD-6 -FGAPEXT-7
-YGAPOP-10 -YGAPEXT-0.5 -DELOP-6 -DELEXT-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
 US-09-874-198-2
3758
1 MRLLTLLGLLCGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              January 23, 2003, 22:21:42; Search time 4115 Seconds (without alignments) 4851.646 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2054640 segs, 14551402878 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MRLLTLLGLLCGSVATPLGP......GVYTKVINYIPWIENIISDF 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                   gb_pat:*
gb_ph:*
gb_pr:*
                                                                                                                                                                                                                                                                                                                                                                                     gb_ov:*
                                                                                                                                                                                                                                                                                                                                                                                                        gb_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                       gb_ba:*
               em_pat: *
em_ph: *
em_pl: *
em_ro: *
em_sts: *
                                                                                                 em_om: *
em_or: *
em_ov: *
                                                                                                                                                                                                                                 gb_sts: *
gb_sy: *
gb_un: *
gb_vi: *
                                                                                                                                                  em_in:*
em_mu:*
em_un:*
                                                                                                                                                                                   em_hum:*
                                                                                                                                                                                                   em_fun: *
                                                                                                                                                                                                                   em_ba:*
                                                                                                                                                                                                                                                                                                   gb_ro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4109280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3
```

£10

```
29: em_v1:*
30: em_htg_inum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pin:*
35: em_htg_rod:*
36: em_htg_wrt:*
37: em_htg_vrt:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.

Score

Query Match Length DB

IJ

Description

50 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7654321
1360 1381 1281 1244.5 1238 1238 1233.5 1233.5 1233.1 1232 1233.1 1232 1232 1233 1233	28001.5 28001.5 2427.5 1815.5 1626.5 1600.0 1600.0 1500.0 1513.5 1549.5 1549.5 1549.5 1549.5 1449.5	3745 3745 3298.5 3285.5 3065.5 3062.5 3054.5
222222222224	74488664747777788860077777788860007788780000000000	99.7 99.7 87.8 87.4 81.6 81.5
	11937 11937 11659 11659 111412 11412 114	2450 2455 4464 4465 3070 2090 2037
	10 RNO1857 10 RNO1856 10 RNO1857 11 RNO1857 12 AB009072 11 MMU19164 9 AF284423 10 AB04975 10 AR027443 10 AR02774 10 D17525 10 MUSCRARI 10 HUMASP 10 HUMASP 10 AR02075 10 AR02076 10 AR02080 10 AF148216 10 AF148216 10 AF148216 11 AF148216 11 AF148216 11 AF148216 11 AF148216 11 AF148216 11 AF148216 11 AF148216	
NAC24951 AL606969 MACASP JUMC1SAB JUMC1SAB JUMC1RS JUMC1RS AL591032 AL591032 BC018319 BC018319 BC022123 4SC15 BC027183	RNO18572 RNO18564 RNO18566 AB009072 RNO118571 MMU19163 AF284421 AX254423 AB049755 AX156466 RNO277423 D17525 MUSCRARF HUMMASP RNO18565 AB009074 AB009074 AB009074 AB009075 AB009074 AB009075 AB009077 AX409609 HUMCIR AX302247 AX409609 HUMCIR AX302518 AX502618	ISMASP2 ISMASP2PR IOSA18286 IOSA18287 BC013893 AB009459 RNO277747
omo omo omo omo omo omo us n socra an ceque eque an como omo omo omo omo omo omo omo omo om	Range S S S S S S S S S S S S S S S S S S S	X98400 H.sapiens m Y09926 Homo sapien Y18286 Homo sapien Y18287 Homo sapien BC013893 Mus muscu AB009459 Mus muscu AJ277747 Rattus no

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                           RESULT 1
HSMASP2
LOCUS
                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                 FEATURES
                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    o
                                                                                                                                                                                     TITLE
                                                                                                                                     JOURNAL
                                                                                                                                             TITLE
                                                                                                                                                ENCE
                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (08-JUN-1996) S. Thiel,
Medical Microbiol T. Thmunol., Bay
Alle, 8000 Aarhus C, Denmark
                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniatz Mammalia; Eutheria; Primates; Catarrhi (bases 1 to 2450)
Thiel,S., Vorup-Jensen,T., Stover,C.M. Poulsen,K., Willis,A.C., Eggleton,P., Reid,K.B.M. and Jensenius,J.C.
                                                                                                                                                                                                                                                                       protease-
X98400
                                                                                                                                                              complement system, protease-2 (MASP-2) Unpublished
                                                                                                                                                                                                                                     Homo
                                                                                                                                                  Thiel,S
                                                                                                                                                                                    Identification and characterization of
                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                  lectin-associated protease.
                                                                                                                                                                                                                                                                X98400.1
                                                                                                                                                                                                                                                                                    .sapiens
                                                                                                                                                        (bases 1 to
                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                           /db_xref="SPTREMBL:075754"
/translation="MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDOE
RRWTLTAPPGYRLRLYETHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPG
KDTFYSLGSSLDITFRSDYSNKKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHL
GGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLE
                                                                               /db_xref="taxon:9606"
/clone_lib="4"
                                                 protease-2"
                                                                      37. .2097
/note="MASP-2"
                                                                                                                                                                                                                                                                                                                                          /protein_id="CAA67050.1"
/db_xref="GI:3297879"
                                                        /product="mannan-binding
                                                               /codon_start=1
                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                GI:3297878
                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                                                                                                           10
10
10
10
10
10
10
10
10
                                                                                                                                                                            characterization of a novel protein of
mannan-binding lectin-associated serine
                                                                                                                                                                                                                                                                                   2450 bp
mannan-binding
                                                                                                                                                                                                                                                                                                                                                                    AB042611

RANO18285

RNO18573

D88205

D88205

MMU250369

MMU19160

AB033742
                                                                                                                                                                                                                                                                                                                                          RNO18568
RNO18570
AK094009
AF004661
                                                                                                                                                                                                                                                                                                                                                                                                                     AB020780
AF321558S1
HOSA18282
                                                                                                                                                                                                                                                                                                                                                                                                                                          D88250
AB042610
AC094176
AB042609
AC115553
AK025309
D88204
HOSA18284
AB008047
HOSA18283
HOSA18283
                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                        mannan-binding
                                                                                                                                                                                                                     Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                                                              Bartholin
                                                                                                                           University of Aarhus, Dept. of rtholin Building, Wilhelm Meyers
                                                         lectin-associated
                                                                                                                                                                                                                                                                                   lectin-associated
                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                        .
X
                                                                                                                                                                                                ., Schwaeble,W.,
Hansen,S., Holm
                                                                                                                                                                                                                      Hominidae;
                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                      AB020780 Cyprinus
AF321558 Homo sapi
Y18282 Homo sapien
AB042611 Cyprinus
Y18285 Rattus norv
Y18573 Rattus Norv
D88205 Halocynthia
AJ250369 Mus muscu
Y19160 Mus muscul
Y19160 Mus muscul
X18508 Rattus Norv
Y18570 Rattus Norv
Y18570 Rattus Norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D88250 Rattus no
AB042610 Cyprinus
AC094176 Rattus no
AB042609 Cyprinus
AC11553 Rattus no
AK025309 Homo saj
                                                                                                                                                                                                                                                                                                                                         AK094009 Homo sa
AF004661 Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y18284 Homo sa
AB008047 Homo
                                                                                                                                                                                                  Holmskov, U
                                                                                                                                                                                                                                                         MASP;
                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                    PRI 07.
Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     610 Cyprinus
176 Rattus no
609 Cyprinus
553 Rattus no
309 Homo sapi
                                                                                                                                                                                                                      Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                        Laursen,S
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norv
                                                                                                                                                                                                                                                                                         07-JUL-1998
                                                                                                                                                                                                                                                         serine
                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                          sapien
sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapien
                                                                                                                                                                                                                                                                                                                                                 sapi
                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapi
                                                                                                                                                                                                         œ
            δÃ
                           밁
                                         20
                                                       밁
                                                                     δÃ
                                                                                   В
                                                                                                Š
                                                                                                              Вþ
                                                                                                                           Qy
                                                                                                                                          밁
                                                                                                                                                       Ω
                                                                                                                                                                                  Qy
                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                        ρ
                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                               γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE CO
                                                                                                                                                                      Вþ
                                                                                                                                                                                                 В
                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                         Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                   DB:
                                                                                                                                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNT
                                                                                                                                          457
                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                            697
                                         221
                                                        637
                                                                                   577
                                                                                                              517
                                                                                                                                                                                   121
                                                                                                                                                                                                 337
             241
                                                                      201
                                                                                                181
                                                                                                                            161
                                                                                                                                                        141
                                                                                                                                                                      397
                                                                                                                                                                                                               101
                                                                                                                                                                                                                             277
                                                                                                                                                                                                                                                        217
                                                                                                                                                                                                                                                                                   157
                                                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                               97
                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                          37
```

EGFSVILDEVESEDVETHPETLCPYDELKIQTDREEHGPFCGKTLPHRIETKSNTVTI
TFVTDESGDHTGWKIHYTSTAHACPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYEL
LQGHLPLKSTTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGGPGVTTYKAVI
QYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQK
AKPGDEFWQVLLLGGTTAAGALLYNMVVLTAHAAVYEQKHDASALDIRWGTLKRLSPH
YTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFWRTDD
IGTASGWGLTQRGFLARNLMYVDIFIVDHQKCTAAYEKPPYPRGSVTANNLCAGLESG
GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGYYTKVINYIPWIENI
ISDF"

609 a

644

O

```
맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
 757
PheSerValI1eLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu
                                                                                                                                                    GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                               TACCCACGGCCGTATCCCAAACTCTCCAGTTGCACTTACAGCCATCAGCCTGGAGGAGGGG
                                                                              TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGly
                                                                                                                                            GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC
                                                                                                                                                                                                                                                           ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                               SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                       TTCAGTGTCATTCTGGACTTTGTGGAGTCCTTCGATGTGGAGACACACCCTGAAACCCTG
                                                                                                                                                                                                                                                    CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                                                                                                                                                                                                                                      (1-686) x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.2e-289
3745.00
99.71%
99.71%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSMASP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-2450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative: Mismatches: Indels: Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length: Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2450
684
0
2
0
                                                                                                                                                             180
                                                                                                                                                                                               160
816
                 260
                                   756
                                                    240
                                                                       696
                                                                                      220
                                                                                                        636
                                                                                                                          200
                                                                                                                                           576
                                                                                                                                                                              516
                                                                                                                                                                                                                  456
                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                    396
                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                     336
                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                        276
                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                          216
                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                              156
                                                                                                                                                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
```

```
δÃ
                           망
                                          δ
                                                         В
                                                                       δÃ
                                                                                         В
                                                                                                       δÃ
                                                                                                                        Ъ
                                                                                                                                   δÃ
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
  밁
                                                                                                                                                     밁
 1837
                               1777
                                                             1717
                                                                                           1657
                                                                                                                         1597
                                                                                                                                                      1537
                                                                                                                                                                                                                  1417
                                                                                                                                                                                                                                               1357
                                                                                                                                                                                                                                                                             1297
                                                                                                                                                                                                                                                                                                           1237
                                                                                                                                                                                                                                                                                                                                        1177
                                                                                                                                                                                                                                                                                                                                                                      1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         817
                601
                                                                           561
                                                                                                         541
                                                                                                                                      521
                                                                                                                                                                                   477
                                                                                                                                                                                                   481
                                                                                                                                                                                                                                461
                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                       381
                                                                                                                                                                                                                                                                                                                                                                                                                                                              937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                    501
                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                  057
                                                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                                 997
                                                                                                                                                                                                                                                                                                                                                                                                                                               321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261
                                                          GluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsn
                                                                                                                                                                                                                                                                                                                 TyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSer
                                                                                                                                                                                                                                                                                                                                              ThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPhe
                                                                                                                                                                                                                                                                                                                                                                           CysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                              ProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                 LysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSer
                                                                                                                                                                                                                                                                                                         TACACAATGAAAGTGAATGATGGTAAATATGTGTGTGAGGCTGATGGATTCTGGACGAGC
                                                                                                                                                                                                                                                                                                                                                                    TGCAGCATTGTTGACTGTGGCCCTCCTGATGATCTACCCAGTGGCCGAGTGGAGTACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGAATCAGGAGACCACACAGGCTGGAAGATCCACTACACGAGCACACGCGCACGCTTGC
                                                                                         AAAGTTGTAATCAATAGCAACATCACGCCTATTTGTCTGCCAAGAAAAGAAGCTGAATCC
                                                                                                                        GAAGGTTATACTCATGATGCTGGCTTTGACAATGACATAGCACTGATTAAATTGAATAAC
                                                                                                                                                                                                                                                                                                                                       ACAGGTCCTGGAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTATCCGATGGCGCCACCTAATGGCCACGTTTCACCTGTGCAAGCCAAATACATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGACATTGCCCCACAGGATTGAAACAAAAAGCAACACGGTGACCATCACCTTTGTCACA
               620
                                                                                                                                                    1596
                                                                                                                                                                                                                1476
                                                                                                                                                                                                                                              1416
                                                                                                                                                                                                                                                                                                                                       1236
1896
                              1836
                                                            1776
                                                                                         1716
                                                                                                         560
                                                                                                                       1656
                                                                                                                                      540
                                                                                                                                                                                  1536
                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                             1356
                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                         1296
                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                      400
                                                                                                                                                                                                                                                                                                                                                                   1176
                                                                                                                                                                                                                                                                                                                                                                                                  1116
                                                                                                                                                                                                                                                                                                                                                                                                                                1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         876
                                             600
                                                                          580
                                                                                                                                                                    520
                                                                                                                                                                                                 500
                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                             340
                                                                                                                                                                                                                                                                                                                                                                                                                                                              996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        280
```

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
HSMASP2PR
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                              REMARK
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                    CDS
                                                                                                                                                          5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2077
                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          621
                                                                                                                                                                                                                                                            3 (bases 1 to 2455)
Schwaeble, W.J.
Direct Submission
Submitted (08-DEC-1998) W.J. Sch
and Microbiology, University of
Leicester LE1 9HN, UK
On Dec 13, 1998 this sequence ve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    / (bases 1 to 2455)
Thiel,S., Jensen,T.V., Stover,C.M.,
Poulsen,K., Willis,A.C., Eggleton,P.
Reid,K.B.M. and Jensenius,J.C.
A second serine professor
                                                                                                                                                                                                                                                                                                                                                                           activates complement
Nature 386 (6624), 5
97242412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
Submitted (06-DEC-1996) T.V. Jensen,
Microbiology & Immunology, Bartholin
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Revised by [3] 2 (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 2455)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y09926
Y09926.1 GI:4007626
                                                                                                                                                                                                                                                                                                                                                                   9087411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DENMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jensen, T.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMASP2PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
/evidence-experimental
/product="MASP-2 protein"
/protein_id="CAR71059.1"
/db_xref="G1:4007627"
/db_xref="G1:4007627"
/db_xref="SPTREMBL:000187"
/translation="MRLUTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQE
RRWTLTAPPGYRLRLYETHFDLEISHLCEYDPVKLSSGAKVLATLCGQESTDTERAPG
KDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEAFTCDHHCHNHL
GGFYCCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLE
                                                                                                                                                                                                            /db_xref="taxon:9606"
/chromosome="1"
                                                                                                                                  /gene="MASP-2"
17. .2077
                                                                                                         /gene="MASP-2"
/codon_start=1
                                                                                                                                                                    /gene="MASP-2"
                                                                                                                                                                                                         /map="p36.2-3"
                                                                                                                                                                                  /tissue_type="liver"
l. .2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                        506-510 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2455
MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp mRI
protein.
                                                                                                                                                                                                                                                                                                   Schwaeble, Department of Leicester, Universi
                                                                                                                                                                                                                                                                             version replaced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                               with
                                                                                                                                                                                                                                                                                                                                                                                                                              Schwaeble, W.J., Laursen, ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               University of Aarhus, Building, 8000 Aarhus
                                                                                                                                                                                                                                                                                                                                                                                                               mannan-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hominidae;
                                                                                                                                                                                                                                                                                                    partment of
University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRI 12-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aarhus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi;
                                                                                                                                                                                                                                                                                                                 Immunology
                                                                                                                                                                                                                                                                                                                                                                                                               lectin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
.
                                                                                                                                                                                                                                                                                                                                                                                                               that
```

```
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     us-09-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Int Similarity:
Local Similarity:
y Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ment
No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polyA_signal
  617
                                              557
                                                                                                                                                                                                                               317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874-198-2
                        201
                                                                    181
                                                                                           497
                                                                                                                 161
                                                                                                                                        437
                                                                                                                                                             141
                                                                                                                                                                                    377
                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                           257
                                                                                                                                                                                                                                                                                                                       197
                                                                                                                                                                                                                                                                                                                                                                  137
                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                       41
                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                              77
                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                         17
SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                          LySTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                         TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGAGAGACACAGACACGGAGCGGGCC
                                                                                                                                                                                                                                                                                                                                PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                             AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                          GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC
                                                                                                                                                                                                                                                                                                                    TTCACCCACTTCGACCTGGAGCTCTCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                                                                                                                                                                                                                                                                                                                                 AATGACCAGGAGCGGCGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="MASP-2"
/evidence=experimental
2078. 2455
/gene="MASP-2"
2278. 2283
/gene="MASP-2"
a 639 c 612 g 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTI
FYTDESGDHTGKKIHYTSTAHACPYPMAPNGIVSPVQAKYLIKDSFSIFCETGYEL
LOGHLELKSFTAVCQKOGSWDRMPAPCSIVDCGPDDLPSGRVEYITGGVETYKGVI
QYSCEETFYTMKVNDGKYVCEADGFWTSKGEKSLPVCEPVCGLSARTTGGRIYGGK
AKPGDEPWQVLILGGTTAAGALLYDNWYLTAAHAVYBQKHDASALDIRMGTLKRLSPH
YTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSHITPICLPKEAESFMTDD
IGTASGWGLTQRGFLARRIMYVDIPIVDHQKCTAAYEKPPYPRGSVTANNLCAGLESG
GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPMIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ISDF"
17. .61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  x HSMASP2PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.21e-289
3745.00
99.71%
99.71%
99.71%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-2455)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2455
684
0
2
0
   676
                                             616
                                                                    200
                                                                                          556
                                                                                                                180
                                                                                                                                     496
                                                                                                                                                            160
                                                                                                                                                                                  436
                                                                                                                                                                                                        140
                                                                                                                                                                                                                               376
                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                         316
                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                      256
                                                                                                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                  40
                                                                                                                                                                                                                                                                                                                                                                                                                                                        76
                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
```

DЬ

Qy дЬ Q DЬ οy

DЪ

Qy

ç δÃ

Qy

뫄 Qy DЬ γ Вþ δÃ

밁 Ω Вb

```
Qy
                     Вþ
                                    Qy
                                                              멍
                                                                                Qy
                                                                                                      В
                                                                                                                    Q
                                                                                                                                             Вр
                                                                                                                                                               Qy
                                                                                                                                                                                      멍
                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                              Вр
                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                    D
                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                      1697
                                                              1637
                                                                                                                                               1517
                                                                                                                                                                                      1457
                                                                                                                                                                                                                                                                                                                                                     1217
                                                                                                      1577
                                                                                                                                                                                                                               1397
                                                                                                                                                                                                                                                                      1337
                                                                                                                                                                                                                                                                                                                                                                                              1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1037
                                                                                                                                                                                                                                                                                                              1277
                                                                                                                                                                                                                                                                                                                                                                                                                                     1097
                                        561
                                                                                                                        521
                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                  461
                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                381
                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221
                    GluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsn
                                                                                                                                                         ThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHis
                                                                                                                                                                                                AlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGly
                                                                                                                                                                                                                                                                     ThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnVal
                                                                                                                                                                                                                                                                                                            GAAGGTTATACTCATGATGCTGGCTTTGACAATGACATAGCACTGATTAAATTGAATAAC
                                                                                                                                                                                                                                         LeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThr
                                                                                                                                                                                                                                                                                                                                                                                                        ThrGlyProGlyValThrThrTyrLysAlaVallleGlnTyrSerCysGluGluThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                               CysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu
                                                                                                                                                                                      GCTGCTCATGCCGTCTATGAGCAAAAACATGATGCATCCGCCCTGGACATTCGAATGGGC
                                                                                                                                                                                                                              CTGATATTAGGTGGAACCACAGCAGCAGGTGCACTTTTATATGACAACTGGGTCCTAACA
                                                                                                                                                                                                                                                                                                                                                                                              ACAGGTCCTGGAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGAAATCCTTTACTGCAGTTTGTCAGAAAGATGGATCTTGGGACCGGCCAATGCCCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAGACAGCTTCTCCATCTTTTGCGAGACTGGCTATGAGCTTCTGCAAGGTCACTTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATGAATCAGGAGACCACACAGGCTGGAAGATCCACTACACGAGCACAGCGCACGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCCCTACGACTTTCTCAAGATTCAAACAGACAGAGAAGAACATGGCCCATTCTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCAGTGTCATTCTGGACTTTGTGGAGTCCTTCGATGTGGAGACACACCCTGAAACCCTG
 LeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCAGCATTGTTGACTGTGGCCCTCCTGATGATCTACCCAGTGGCCGAGTGGAGTACATC
                                                              1696
                                                                                                      1636
                                                                                                                         540
                                                                                                                                                                 520
                                                                                                                                                                                                                               1456
                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                             1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1036
  600
                                                                                                                                               1576
                                                                                                                                                                                      1516
                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                     1276
                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                              1216
                                                                                                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                                                                                                                                                                                                                                                                                                    1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
```

```
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
HOSA18286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ERSION
                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAI
                                                                                                                                                                                                                                                                                                                         RNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1997
                                       CDS
                                                                            exon
                                                                                                                  mRNA
                                                                                                                                                        mRNA
                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1757
                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnilelleSerAspPhe 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATAGTGAAACAGAGGGGGTTTGTGGGGAGGAATAGTGTCCTGGGGTTCCATGAATTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTAGAAAGTGGGGGCAAGGACAGCTGCAGAGGTGACAGCGGAGGGGGCACTGGTGTTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATATGAAAAGCCACCCTATCCAAGGGGAAGTGTAACTGCTAACATGCTTTGTGCTGGC
                                                                                                                                                                                                                                                                                              2 (bases 1 to 4464)
Schwaeble,W.J.
Birect Submission
Submitted (19-OCT-1998) W.J. Schwaeble, Department of Microbiology
and, Immunology, University of Leicester, University Road, PO Box
138, Leicester LEI 9HN, UK
                                                                                                                                                                                                                                                                                                                                                                                                                     Indiminative, Francisco (Dases 1 to 4464)

1 (bases 1 to 4464)

Stover, C.M., Thiel, S., Thelen, M., Lynch, N.J., Vorup-Jensen, T.,

Jensenius, J.C. and Schwaeble, W.J.

Two constituents of the initiation complex of the mannan-binding constituents of the initiation complex of the mannan-binding constituents of the initiation complement are encoded by a single
                                                                                                                                                                                                                                                                                                                                                                                                    structural gene
J. <u>Immunol</u>. 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein; mannose binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y18286
Y18286.1 GI:5459322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sapiens.
            join(16. .559,2414.
/gene="MASP-2"
/note="alternative"
                                                                                                  /note="alternative"
join(1. .559,1004.
/gene="MASP-2"
/codon_start=1
                                                   note="a"
                                                             /gene="MASP-2"
                                                                                                                                         join(1. .559,2414. .2610,2926.
/gene="MASP-2"
                                                                                                                                                                 /gene="MASP-2"
                                                                                                                                                                                             /cell
                                                                                                                                                                                                       clone="pgM-2A"
                                                                                                                                                                                                                    /map="1p36.2-3"
                                                                                                                                                                                                                                  /chromosome="1"
                                                                                                                                                                                                                                              /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                       'note="alternative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4464 bp
partial MASP-2 gene,
                                                                                                                                                                                           _type="lymphocyte"
                                                                                                                                                                                                                                                                                                                                                                                                    (6),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                                                                                                                                                                                                                                                               3481-3490 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            n; mannose
protein; s
                                                                                                                 .1156)
                                     .2610,2926.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           e binding lectin-associated serine protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
pgm-2A.
                                                                                                                                                      .4464)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRI 12-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 1936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                δÃ
                                                            밁
                                                                                   Q
                                                                                                                                     δõ
                                                                                                                                                                В
                                                                                                                                                                                        Q
                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                           Qy
                                                                                                               밁
                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x HOSA18286 (1-4464)
                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         exon
          316
                                  101
                                                                                                              196
                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                                 No.:
                                                            256
                                                                                    81
                                                                                                                                      61
                                                                                                                                                                                         41
                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                    76
                                                                                                                                                                                                                                                                      16
          CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                                                                                                                AATGACCAGGAGCGGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                    AAGTGGCCTGAACCTGTGTTCGGGCGCCTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                             Scores:
                                                                                                              TTCACCCACTTCGACCTGGAGCTCTCCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2414. .2610
/gene="MASP-2"
/note="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="MASP-2"
/note="d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             join(16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2926.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="MASP-2"
/note="alternative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note-"b"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISDF"
                                                                                                                                                                                                                                                                                                                                                4.56e-253
3298.50
48.12%
48.12%
87.77%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .4464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             559,1004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                             Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                             Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .1017)
                                                                                                                                                                                                                                                                                                                                               4464
680
0
2
731
```

```
GGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLE
EGFSVILDFVESFDVETHPETLCPYDELKIQTDREEHGPFCGKTLPHRLETKSMTVTI
TFYTDESGDHTGWK IHYTSTAHACPY PMAPPNGHVSPVQAKYILKDSFSIFCETGYEL
LQGHLPLKSFTAVCQKDGSWDRPMPAIVDCGPPDDLCSSPSGRVEYITGPGVTTYKAVI
QYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQK
AKPGDFPWQVLGGTTAAGALLILYDNWYLTAAHAVVSDQKHDASALDIRWGTLKRLSPH
YTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSUTTPICLPRKEAESFMRTDD
IGTASGWCLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTAMMLCAGLESG
GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /translation="MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="MASP-2 protein"
/protein_id="CAB50733.1"
/db_xref="GI:5459324"
```

/product="MAp19 protein"
/protein\_id="CAB50732.1"
/protein\_id="CAB50732.1"
/db\_xref="G1:5459323"
/translation="MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEVANDQE
/RWTLTAPPGYELRLYFTHFDLELSHLCEYDFVELSSGAKVLATLCGQESTDTERAPG
KDTFYSLGSSLDITFRSDYSNEKFFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHL
GGFYCSCRAGYVLHRNKRTCSEQSL"

1 MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCTCGGTGGCCACCCCCTTAGGCCCG 75 20

LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla

40

135

60

AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr

PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer 80 195

ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120 375

Qy	D 99	рb	Qy	Db	Qy	DЬ	Qy	Db	Qy			Db	Qγ	B	Qy	Db	Qγ	Db	Ωу	DЪ	Qу	Db	Qy			로 !	9	B 5	٥	당 .	04	g 4	, 5	P 09
81	181	1336 AGGCCTCGCTCGAGTCCAGGTCCCCAGAGGCTGAGCCCAGAGTAATCTTGAACCACCCCC 1395	181 181	1276 ACACGGTCCTTGGCCTCACCCCCTGTTTTGAAGATGGGGCCACTGAGGCCCGGAGAGGGGGTA 1335	181 181	1216 TGCCTACCCTCCTCACAGCCTCATGAACCCCCAGGTCTGTGGGGAGCCTCCTCCATGGGGCC 1275	181 181	1156 ACCTGCTGCGCGTGTCTCTGGGGTGGGAGGGTCGGGAGGCGGGGGGGG	1 ]	96 TGGCTGTGCCCAACTCCCATTCACCCACCATGGACCCAATAATAAACCTGGCCCCACCCC 1	181 181	1036 CCTGCCCAGCAGTCAGAAGCCAGAGCCAGCCTGCCTCCAGCTCCGGGTTGGGCTGAGA 1095	1 181	976 CTCCTTGCCTCTGATCTCTTCCAGAGCAGAGCCTCTAGCCTCCCCCTGGAGCTCCGG 1035	181 181	916 CAGCCCCACCCTGTGGCGCTGACCCTGCCTCCCCCGACTCGGTTTCTCCTCTCGGTGTCT 975	181 181	856 GTTCCTTGGACTGTTCCTGTTCCCTGCACTGTGGGACAGGCCCAGTGCTCTGGGACGTGGG 915	181	796 TTCCACCTGGGCTCTGGGAACCCCTCATGTAGCCACGGGAGAGTCGGGGTATCTAGCCTC 855	181 181	736 TCATCAGTGCCACCCTGCCCTAGCACTGAGACTAATTCTAACATCCCACTGTGTACCTGG 795	1	76 CTAGGCCCTGCTGCCCCAGCTCCCCTTCTCAGCCCTGCTTCCCCCTCTCAGCAGCCAGGC 73	© 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		200	TO CONTRACT	81 Ser.	96 GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC 5	61 GlvGlvPheTvrCvsSerCvsArgAlaGlvTvrValLeuHisArgAsnLvsArgThrCvs 1	141 GLUCYSGLINVALALAPTOGLYGLIALAPTOTINT/YSASPHLSHISCYSHISASHHISLEU 160		121 TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp 140 
Qy	Db dd	0	p &	? 5	Z (2	2 5	Qy	Db	Оу	Db	Qy	ρb	Оу	дь	Qy	дь	Qy	Db	Qy	Db	Qy	Db	Qy	Db	Qy	Db	Оу	Db	Qy	da	Qy	dd	Qy	Db
223 ValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCysPro 242	GGCCGTATCCCAAACTCTCCAGTTGCACTTACAGCATCAGCCTGGAGGAGGAGGGGTTCAGT	3 ArgProTvrProLvslemSerSerCvsThrTvrSerTleSerLemGlmGlmGlvPheSer	103 Leucyssetstystitvalyneititstitätysteststystuheusetsetrostityteto 202 	00		96 GATGICCCAGCCACATCCCTGICCCAGTTTCCTGCTCCCCAAGGCATCCACCCTGCTGIT		36 GGTTTCTGGGTAGGCCTCAGGGGCTGGCCACCTGCAGGGCCCAGCCAACCCAGGGATGCA	1	2176 GCCTCAAAGCAAGAGAAACCCCCCTCTCTAAGCGGCCCCTCAGCCATCGGGTGGGT	181	16 CTGGGGGTGTGAGTGAGGGGCCTGTGCGCTCCATCCCGAGTGCTGCCTGTTTCACGTAAA	181 181	2056 ACTCAGTGCTCTAGCCCCTACCCTGGGGTTGCGACTCTGGCTCAGGATACCACCACGCTC 2115	181	96 TTCTTCCTCCTGCTGTGTGCCATCCACCCCCGCCCCCGCCCTGGCAGAGCTGGTGGA		36 TAGGCTCGAGGAGATGCTCCTCTCTTTTCCCGAATTCCCAGGGACCAAGGAGAGTGTCCC	81	TANACTTGGGAATCACTGGGGTGGCTGTAAGGGAATTTAGGGGAGCTCCGAAGGGGCCCT	181	16 CTCCAGGAACCAGGGGGCTGGCTGGTCTTGGCTGGGTTCGGGTAGGAGACCCCTGATGAA	81	1756 CCAGGGCAGGGGTCAGACCTGGGGAAAGGGGGTGATGAGAGACCCTTCTTCCGGATGTTC 1815	181 181	1696 AGGAAGGAGAGCACCAGACTCAGTCATGATCACTGTTGCCTTGAACTTCCAGGAGCAGCC 1755	181 181	1636 TGAAGGATAGAGCCCAGCCCAGCACCCCCGCCCCGTGGCAGCAGCATCACGTGTTCCAGCG 1695	181 181	1576 AATGCCCCCCACTGCAGCTGGGGGTGGGGTGGTGGTATGGGATGGGGACCAAGCCTTCCT 1635	181 181	1516 CCACGTGGAAGAAGGCAGGCAATGTTGGGGGCTCCTCACTTCCTAGAGGCCTCACAACTCA 1575	181 181	1456 TGAGGGGTAATCTGGTCCCCCGCAAATCCAGGGGTGATTCCCACTGCCCCATAGGCACAG 1515

493 3663	4 TyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSer 	y 47 b 360	<b>0</b> 0
473 3603	6 PheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeu 	у 45 b 355	a a
455 3549	6 LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAsp 	у 43 b 349	0 0
435 3489	6 GlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly	y 41 b 343	0 0
415 3429	6 CysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAsp 	Qy 39 Db 337	
395 3369	6 ArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSer 	y 37 b 331	<b>в</b> с
375 3309	8 MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGly	35 25	
357 3255	8 HisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgPro		- 0
337 3195	8 TyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly 	$\omega \rightarrow$	m 0
317 3135	8 GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys	Qy 29 Db 307	п о
297 3075	8 PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla 	7	п о
277 3015	8 PheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThr 	ഗംഗ	п о
2955	TIEGITYTEASPATGG LIGIUHISGIYETO TTCCCCAGCTTTCATGAGCTTCTTTCTCAGATTCAAACAGACAG	b 289	0 0
00	CCCTGAAATGCTGAGGAGGTGGGTTACTTCCCTCCGCCCAGGCCAGACCCAGGCAGCCAGC	8 8 8	
247	7	4	
2835	TGGGAGGCAGAGTGGGGAGGGGCACCCCAATCCATGGCCTGGGTTGGCCTCATTGGCTGT	b 277	D
247	7	Qy 24	_
2775	CCCCACCTCTTCAGGTGCTCTATGGAGGTCAAGGCTGGGGGCTTCGAGTACAAGTG	b 271	D
247	7	Qy 24	_
2715	CCAGCTGCACCCCTACTTCCTGCAGCATGGCCCCCACCACGTTCCCGTCACCCTCG	b 265	U
247	7	Qy 24	_
6		259	D
47	3 TyrAspPheLeuLys	24	_
2595	6 GTCATTCTGGACTTTGTGGAGTCCTTCGATGTGGAGACACACCCTGAAAACCCTGTGTCCC	Db 253	_

```
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                      RESULT 4
HOSA18287
LOCUS
                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                              FEATURES
                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                             JOURNAL
MEDLINE
                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                      4204
                                                                                                                                                                                                                                                                                                                                                                                                                                                      4144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        534
                                                                                                                                                                                                                                                                                                                                                                                                                              674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeu 553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTGGGGTTCCATGAATTGTGGGGAAGCAGGTCAGTATGGAGTCTACACAAAAGTTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlualaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTAACATGCTTTGTGCTGGCTTAGAAAGTGGGGGCAAGGACAGCTGCAGAGGTGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGAAGCTGTTTTTATACATGAAGGTTATACTCATGATGCTGGCTTTGACAATGACATA
                                                           and,
138,
                                                                                2 (bases 1 to 4465)
Schwaeble, W.J.
Direct Submission
Submitted (19-OCT-1998)
                                                                                                                                              J. Immunol
99192764
                                                                                                                                                        structural gene
J. Immunol. 162
                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 4465)
Stover,C.M., Thiele,S., Thelen,M., Lynch,N.J., Vorup-Jensen,T., Jensenius,J.C. and Schwaeble,W.J.

Two constituents of the initiation complex of the mannan-binding lectin activation pathway of complement are encoded by a single
                                                                                                                                                                                                                                                                    Homo
                                                                                                                                                                                                                                                                                                                 Homo sapiens partial
Y18287
Y18287.1 GI:5459325
                                                                                                                                                                                                                                                                                        lectin-associated protein; mannose binding lectin-associated protein; mannose binding protein; serine protease.
                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                  0092804
                                                           itted (19-OCT-1998) W.J. Schwaeble, Department of Microbiology
Immunology, University of Leicester, University Road, PO Box
Leicester LEI 9HN, UK
                                                                                                                                                                                                                                                                  sapiens
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="1"
                                   Location/Qualifiers
1. .4465
                                                                                                                                                                                                                                                                                                                                        4465 bp
partial MASP-2 gene,
                                                                                                                                                        (6),
                                                                                                                                                       3481-3490 (1999)
                                                                                                                                                                                                                                                                                                                                       DNA linear
clone pgM-2B.
                                                                                                                                                                                                                                                                                                                                                                                                      4242
                                                                                                                                                                                                                                                                                                                                                     12-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
```

```
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                 US-09-874-198-2 (1-686) x HOSA18287 (1-4465)
                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                       Score:
                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                            COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                                                       NO . .
                       41
                                                                                                 21
                                                                                                                                         16
                                                             76
AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                 LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                         MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                           AAGTGGCCTGAACCTGTGTTCGGGCGCCTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                       ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCCTCGGTGGCCACCCCCTTAGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                    937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /LTans 1 tion="MRLITLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQE RRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSCAKVLATLCGGESTDFERAPG ROTFYSLGSSLDITFRSDYSNEKFFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHL GGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSEYPRPYPKLSSCTYSISLE BGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSEYPRPYPKLSSCTYSISLE GGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSEYPRPYPKLSETKSMTVTI TFVTDESGDHTGWKIHYTSTAHACFYPMAPIVDCGPAKYILKDSESIFCETGYEL LQGHLPLKSFTAVCQKDGSWDREWBAIVDCGPPDDLCSSGRVEYITGFGVTTYKAVI OYSCETTFYTMKYNDGKYVCEADGFWTSKGKKSLPVCEPVCGLSARTTGGRYTTYKAVI OYSCETTFYTMKYNDGKYVCEADGFWTSKGKKSLPVCEPVCGLSARTTGGOK AKPGDFWOYLGGTTAAGALLILYDNWVLTAAHAVYEKPYPKSALDIRMCTLKRLSPH YTQAWSEAVFIHBGYTHAGFDWDIALIKLNNKTVINSNITPICLPRKEAESFWRTDD IGTASGWGLTQRGFLARRLMYVDIFIUDHQKCTAAAHAVYEKPYPKSSVTANMLCAGLESG DEGROEGGEN WEITGGANGTEN GANGEN FOR WEITGHTGAGALESG WEITGHTGAGALESG WEITGGANGTEN GANGEN FOR WEITGHTGAGALESG WEITGHTGAGAGALESG WEITGHTGAGALESG WEITGHTGAGALESG WEITGHTGAGALESG W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="MASP-2"
join(1. .559,2415.
/gene="MASP-2"
join(1. .559,1004.
/gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2415.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGFYCSCRAGYVLHRNKRTCSEQSL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /translation="MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQE
RRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPG
KDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2927. .4465
/gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="MAp19"
/protein_id="CAB50734.1"
/db_xref="GI:5459326"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  )oin(16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISDF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cell_type="lymphocyte"
1. .4465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="pgM-2B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note="d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /protein_id="CAB50735.1"
/db_xref="GI:5459327"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="MASP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="a"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /map="1p36.2-3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              codon_start=1/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oin(16
                                                                                                                                                                                                                                                           4.96e-252
3285.50
48.09%
48.09%
87.43%
                                                                                                                                                                                                                                                                                                                                                                                                                                  1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2611
                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .559,2415.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                559,1004.
                                                                                                                                                                                                                                                                                                                                                                                                                                1219
                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                         Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .2611,2927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .1017)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2611, 2927. .4246)
                                                                                                                                                                                                                                                                                                                                                                                                                                  971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .4465)
                                                                                                                                                                                                                                                     4465
680
0
2
732
                                                           135
                                                                                                 40
                     60
                                                                                                                                     75
                                                                                                                                                                             20
                                                                           뮹
                                                                                                                 δõ
                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                               QΥ
   망
                                   Qy
                                                                                                                                                         밁
                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
   1216
                                                                             1156
                                                                                                                                                                                                                                     1036
                                                                                                                                                         1096
                                         180
                                                                                                                   180
                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                               976
                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                         916
                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGCCTACCCTCCACAGCCTCATGAACCCCAGGTCTGTGGGAGCCTCCTCCATGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                             CACCTGCTGCCGCGTGTCTCTGGGGTGGGAGGGTCGGGAGGCCGGCGGGGTGCGCTCCTCT
                                                                                                                                                                                                                                   CTGCCCAGCAGGTCAGAAGCCAGAGCCAGCCTGCTGGCCTCAGCTCCGGGTTGGGCTGAG
                                                                                                                                                                                                                                                                                                                                                                                         CAGCCCCACCCTGTGGCCTGACCCTGCCTCCCCGACTCGGTTTCTCCTCTCGGTGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTCCTTGGACTGTTCCTGCTCCTGCACTGTGGGACAGGCCAGTGCTCTGGGACGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCATCAGTGCCACCCTGCCCTAGCACTGAGACTAATTCTAACATCCCACTGTGTACCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGTGCCAGGTGGCCCCGGGAGAGGCGCCCACCTGCGACCACCACCTGCCACAACCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGCTGTGCCCCAACTCCCATTCACCCACCATGGACCCAATAATAAACCTGGCCCCACCC
                                                                                                                                                                                                                                                                                                             CTCCTTGCCTCTCTGATCTCTCTCCAGAGCAGAGCCTCTAGCCTCCCCTGGAGCTCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCCACCTGGGCTCTGGGAACCCCTCATGTAGCCACGGGAGAGTCGGGGTATCTAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGGCCCTGCTCCCAGCTCCCCTTCTCAGCCCTGCTTCCCCTCTCAGCAGCCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGCCATTGCTGCTCTGCCCAGGGGTGCGGAGGGCCTTGGGCCTGGACACTGGGTGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGACATTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATGACCAGGAGCGGCGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGTGAGGGAGGCTGCCTGGGCCCCCAACGCACCCTCTCCTGGGATACCCGGGGCTCCT
                                                                                                                                                                                                 1
                                                                             1215
                                                                                                                                                         1155
                                                                                                                                                                                                                                     1095
                                                                                                                                                                                                                                                                                                             1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     615
                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                         975
                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100
                                       180
                                                                                                                   180
                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
```

В οy рь Qy

δõ

41	l Qy		
337	da	Db 2296 AGATGTCCCAGCCACATCCCTGTCCCAGTTTCCTGCTCCCAAGGCATCCACCCTGCTGT 2355	
39	Qy	Qy 180 <sup></sup> 180	
331	Db	Db 2236 TGGTTTCTGGGTAGGCCTCAGGGGCCTGGCCAGCCAGGGCCCAGCCAACCCAGGGATGC 2295	
37	Qy	Оу 180 180	
325	ДĎ	Db 2176 AGCCTCAAAGCAAGAAACCCCCTCTCTAAGCGGCCCCTCAGCCCATCGGGTGGGT	
. <u>.</u>	Qy	Оу 180 180	
319	Db	Db 2116 CCTGGGGGTGTGAGTGAGGGGCCTGTGCGCTCCATCCCGAGTGCTTGCCTGTTTCACGTAA 2175	
, <u>,</u>	D Q	Qy 180 180	
313	o dd	Db 2056 AACTCAGTGCTCTAGCCCCTACCCTGGGGTTGCGACTCTGGCTCAGGATACCACCACGCT 2115	
3 1	Uy Uy	Qy 180 180	
30/	) D	Db 1996 CTTCTTCCTCCTTCCTGTGTGTCCATCCACCCCCCCCCC	
2 2 2 9	Qy	180 180	
301	Üb	936 TTAGGCTCGAGGAGATGCTCCTCTCTTTTCCCGAATTCCCCAGGGACCAAGGAGAGTGTCC 1995	
2 2 7	ī. Qy	Qy 180 180	
2 6		Db 1876 ATAAACTTGGGAATCACTGGGGTGGCTGTAAGGGAATTTAGGGGAGCTCCGAAGGGGCCCC 1935	
)     ()	D . Q	Qy 180 180	
200	) [	Db 1816 CCTCCAGGAACCAGGGGGCTGGCTGGTCTTGGCTGGGTTCGGGTAGGAGACCCCTGATGA 1875	
000		Qy 180 180	
200	O 5	Db 1756 CCCAGGGCAGGGGTCAGACCTGGGGAAAGGGGGGTGATGAGAGACCCTTCTTCCGGATGTT 1815	
) ) (4	p. 5	Qy 180 180	
, ,	) E	Db 1696 GAGGAAGGAGACCAGACTCAGTCATGATCACTGTTGCCTTGAACTTCCAGGAGCAGC 1755	
, r 1	Db 08	Qy 180 180	
	) E	Db 1636 TTGAAGGATAGAGCCCAGCCCAGCACCCCGCCCCGTGGCAGCAGCATCACGTGTTCCAGC 1695	
) ) )	D, X	Qy 180 180	
200	C: D	Db 1576 AAATGCCCCCCACTGCAGCTGGGGGTGGGGTGGTATGGGATGGGGACCAAGCCTTCC 1635	
) N		180 180	_
259	Db Db	516 GCCACGTGGAAGAAGGCAGGCAATGTTGGGGGCTCCTCACTTCCTAGAGGGCCTCACAACTC 1575	_
24	- Qy	Ov 180 180	
253	Db	Db 1456 TTGAGGGGTAATCTGGTCCCCCGCAAATCCCAGGGGTGATTCCCCACTGCCCCCATAGGCACA 1515	
22	Qy	Оу 180 180	
247	Db	Db 1396 CATTCAGGGTCTGGCCTGGAGGAGCCTGACCCACAGAGGAGACACCCTGGGAGATATTCA 1455	
20	Qy	Qy 180 180	
241	מט	Db 1336 AAGGCCTCGCTCGAGTCCCAGGGTCCCCAGAGGCTGAGCCCAGAGTAATCTTGAACCCACCC	
18	ç, Qy	Qy 180 180	
235	Db	Db 1276 CACACGGTCCTTGGCCTCACCCCCTGTTTTGAAGATGGGGCACTGAGGCCGGAGAGGGGT 1335	
18	Оу	Оу 180 180	
	-		

	l Qy 415 pGlyPheTrpThrSer:	b 3370 CTGTGAAGAGACCTTC	95 rCysGluGluThrPhe	3310 CCGAGTGGAGT	ArgValGluT	3256 AATGCCCGCG	357 ometProAlaCvsSe	96 TCACTTGCCCCTGAL	337 WHISTONDERSTON	317 sTyrIleLeuLysAsp	76 GCACGCTTGCCCTTAT	297 aGlabroCvebro	Qy 277 rPheValThrAspGluSe	Db 2956 ATTCTGTGGGAAGACA	PheCysG	Db 2896 CTTCCCCAGCTTTCATO	Оу 248	Db 2836 TCCCTGAAATGCTGAG	Оу 247	Db 2776 GTGGGAGGCAGAGTGG	ОУ 247	Db 2716 GGTGACCCCACCTCT	Qy 247	Db 2656 CAGCCCAGCTGCACCCC	Qy 247	Db 2596 CTACGACTTTCTCAAG	TyrAspPheLeuLy	2536 TGTCATTCTGGACTTT	llleLeuAspPhe	Db 2476 ACGGCCGTATCCCAAA	rgProTyrProLys	Qy 182 aLeuCysSerGlyGlnVa	2356 TeGTGCGAGGGCT	
P = 5	rLysGlyGluLysSerLeuProValCysGluProValCysGl	ACACAATGAAAGTGAATGATGGTAAATATGTGTGTGAGGCTGA	yrThrmetLysValAsnAspGlyLysTyrValCysGluAlaAs	TGGAGTGACCACCTACAAAGCTGTGATTCAGTACAG	coGlyValThrThrTyrLysAlaValIleGlnTyrSe		eValAspCvsGlvProProAspAspLeuProSerGl	CTTTACTGCAGTTTGTCAGAAAGATGGATCTTGGGACCGGCC	C11C1CH1C111110C6H6HCHC1GC1H16H6C11C1GCHH6G	SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGl 	CGATGGCGCCACCTAATGGCCACGTTTCACCTGTGCAAGCCAA	OMOTA   aDroDroAenG   vu  eVa   GerbroVa   G  na   ar v	rGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAl 		rgIleGluThrLysSerAsnThrValThrIleTh	AGCTTCTTTCTCAGATTCAAACAGACAGAGAAGAACATGGCCC	IleGlnThrAspArgGluGluHisGlyPr	AGGTGGGTTACTTCCCTCCGCCCAGGCCAGACCCAGGCAGCTG		GAGGGGCACCCCAATCCATGGCCTGGGTTGGCCTCATTGGCTG		AGGTGCTCTATGGAGGTCAAGGCTGGGGCTTCGAGTACAAGT		CTACTTCCTGCAGCATGGCCCCCACCACGTTCCCGTCACCCTC		CTGGCTCCTGGGCCCCTCATCTTGTCCCAGATCCTCCCCCTT		GAGTCCTTCGATGTGGAGACACCCCTGAAACCCTGTGTC	GluSerPheAspValGluThrHisProGluThrLeuCysPr 2	CTCCAGTTGCACTTACAGCATCAGCCTGGAGGAGGGGGTTC	uSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSe	lPheThrGlnArgSerGlyGluLeuSerSerProGluTyrPr 2	a BEBCACECCAAGTCACTCCCCTBCCCTTCCCTTCCTFTCC	

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                RESULT 5
BC013893
                                                                                     REFERENCE
                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                 DEFINITION
                                    TITLE
JOURNAL
                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                  4204
                                                                                                                                                                                                                                                                                                                                                                                                                                              4084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3490
                                                                                                                                                                                                                                                                                                                                                                                                              653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   724
                                                                                                                                                                                                                                                                                                              pSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspI1 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSe 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCCTGGGGTTCCATGAATTGTGGGGGAAGCAGGTCAGTATGGAGTCTACACAAAAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                             lSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValI1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCTAACATGCTTTGTGCTGGCTTAGAAAGTGGGGGCAAGGACAGCTGCAGAGGTGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSe 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGACCATCAAAAATGTACTGCTGCATATGAAAAGCCACCCTATCCAAGGGGAAGTGTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        lAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGlySerValTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspIleProIleVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAAGAAAAGAAGCTGAATCCTTTATGAGGACAGATGACATTGGAACTGCATCTGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   uProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTr 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATGACAACTGGGTCCTAACAGCTGCTCATGCCGTCTATGAGCAAAAACATGATGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTTCCTTGGCAAGTC-----TTAGGTGGAACCACAGCAGCAGGTGCACTTCTGATATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeu-----Le 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTATCAGCCCGCACAACAGGAGGGCGTATATATGGAGGGCAAAAGGCAAAACCTGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             yLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAs
Direct Submission
Submitted (07-SEP-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                 Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia; 1 (bases 1 to 3070)
                                                                                                                                                                                 BC013893.1 GI:15530224
                                                                                                                                                                                                                 clone
                                                                                                                                                                                                                                 Mus
                                                                    Strausberg, R.
                                                                                                                                    Mus musculus
                                                                                                                                                                   MGC
                                                                                                                                                 house mouse
                                                                                                                                                                                                            13893 3070 bp mRNA linear ROD 07-AUG-20 musculus, Similar to mannan-binding lectin serine procease 2, ne MGC:13718 IMAGE:4211293, mRNA, complete cds.
                                                                                             Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                               07-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                            673
                                                                                                                                                                                                                                                                                                                                                                                                                                            4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            455
                                                                                                  Mus
                                                               Q
                                                                                                 Дb
                                                                                                                               QУ
                                                                                                                                                                DЬ
                                                                                                                                                                                              δÃ
   Š
                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                            BASE
                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x BC013893 (1-3070)
                                                                                                                                                                                                                                                                DB:
                                                                                                                                                                                                                                                                               Query Match:
                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                               Best Local
                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REMARK
                                                                                                                                                                                                                                                                                                                                                                                                            COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                              No.:
                                   137
   61
                                                                 41
                                                                                                  77
                                                                                                                                21
                                                                                                                                                                17
                                                                                                                                                                                 MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                 LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                             Scores:
                                                  AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
   PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                  AAGTGGCCTGAACCTGTATTCGGGCGCCTGGTGTCCCCTGGCTTCCCCAGAGAAGTATGCT
                                                                                                                                                                                                                                                                                               Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             http://www.systemsbiology.org
                                                                                                                                                                                                                                                                                                                                                                                                              836
                                                                                                                                                                                                                                                                                                                                                                                                              ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /map="EVB/N"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                            1.06e-234
3065.50
88.65%
81.51%
81.51%
                                                                                                                                                                                                                                                                                                                                                                                                              756
                                                                                                                                                                                                                                                                                                                                                                                                            O
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                           Matches:
Conservative:
Mismatches:
Indels:
```

Qy

В δÃ

В δÃ 밁 Ъ

ρy

Qy

B QY В Qγ DЪ Qγ Db

Вþ

Ъ Qy В QΥ

B

VERSION

60

40

LOCUS

```
Clone distribution: MGC clone distribution information can through the I.M.A.G.E. Consortium/LLNL at: http://image.llr Series: IRAK Plate: 18 Row: n Collumn: 9
This clone was selected for full length sequencing because passed the following selection criteria: matched mRNA gi: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contact: amadan@systemsbiology.org
Anup Madan, Jessica Fahey, Erin Helton, Mark Ketteman,
Madan, Stephanie Rodrigues, Amy Sanchez and Michelle W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium

DNA Sequencing by: Institute for Systems Biology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NIH-MGC Project URL: http://mgc.nci.nih.Contact: MGC help desk
Email: ggapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.
                                                                                                                               /translation="MRLLIFLGLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYADHQD

RSWTLTAAPBYKELRLYFTHFDLELSYRCEYDFWKLSSCTKVLATLCGQDSTDTEQAPG

NDTFYSLGPSLKVTFHSDYSNEKEFTGFEAFYAAEDVDECRVSLGDSVPCDHYCHNYL

GGYYCSCRAGYVLHQNKHTCSALCSGQVFTGRSGYLSSPEYPQPYRLSSCTYSIRLE

GGFSVLLDFVESSDVETHPEAQCPYDSLKIQTNGEHGFFCGKTLPPRLETDSHKVTI

TFATDESGHNFGWKIHTTSTAARCPDDTAPPNGKSISVPOAIVYLKDRFSVFCKYFGFEL

LOGSVPLKSFTAVCQKDGSWDRPMPECSIIDCGPPDDLPNGHVDYITGPEVTTYKAVI

QYSCEETFYTMSSNGKYVCEAAGALTHDNAVYLTAAHAYYEKRMAASSLNIRMGLIKRLSPH

KFGDFPWQVLLLGQTTAAAGALIHDNAVYLTAAHAYYEKRMAASSLNIRMGLIKRLSPH

TTQAWPEEIFIHEGYTHGAGFDNDIALIKLKNKYTINGSIMPYCLPFKEAASLMRTDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="Liver, normal.
/clone_lib="NGI_CGAP_Li9"
/lab_host="DH10B"
/note="Vector: pCMV-SPORT6"
17. 2074
                                                                     KDSCRGDSGGALVFLDNETQRWFVGGIVSWGSINCGAADQYGVYTKVINYIPWIENII
                                                                                                      TGTVAGWGLTQKGLLARNLMFVDIPIADHQKCTAVYEKLYPGVRVSANMLCAGLETGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="Similar to mannan-binding 2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /protein_id="AAH13893.1"
/db_xref="GI:15530225"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Mus musculus"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="MGC:13718 IMAGE:4211293"
770 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               month old
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               information can be for http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lectin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               male
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Whiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mouse."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6754641.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       found
```

```
Š
                  밁
                          δ
                                       В
                                               δ
                                                            DЬ
                                                                     Qy
                                                                                   В
                                                                                           Š
                                                                                                      В
                                                                                                                 Š
                                                                                                                                                     밁
                                                                                                                                                             δÃ
                                                                                                                                                                         В
                                                                                                                                                                                  δ
                                                                                                                                                                                               В
                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                     Вр
                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                             믕
                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                        β
                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                        1157
                                                             1097
                                                                                                                                                                                                                                                                                     497
                                                                                   1037
       421
                            401
                                                  381
                                                                       361
                                                                                                                                                                                                                                                                                                            437
                                                                                                        977
                                                                                                                                                                                                                                                                                                                                                         317
                                                                                                                   321
                                                                                                                              917
                                                                                                                                         301
                                                                                                                                                    857
                                                                                                                                                               281
                                                                                                                                                                                     261
                                                                                                                                                                                                737
                                                                                                                                                                                                                      677
                                                                                                                                                                                                                                221
                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                  377
                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                  101
                                                                                                                                                                                                                                                                                                                                                                              257
                                                                                                                                                                          797
                                                                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                                                                                                    197
                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                     SerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAlaArgThr
               TGCAGCATTATTGATTGTGGCCCTCCTGATGACCTACCCAATGGCCATGTGGACTATATC
                                                                  CysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIle
                                                                                       LeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAla
                                                                                                       CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                           PheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu
                                                                                                                                                                                                                                          ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp|
                                                                                                                                                                                                                                                                                                                                                                                   SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                   CTGAAATCATTCACTGCTGTCTGTCAGAAAGATGGATCTTGGGACCGGCCGATGCCAGAG
                                                                                                                                                                                                                                                                                                                                  TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                                                                                                                              TCAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                     TTCAGTGTCATCCTGGACTTCGTGGAGTCCTTCGATGTGGAGACGCACCCTGAAGCCCAG
                                                                                   1096
                                                                                                                                                                                                                                                                                                                                                                                        100
                 1273
                                       1216
                                                 400
                                                                                                        1036
                                                                                                                  340
                                                                                                                              976
                                                                                                                                        320
                                                                                                                                                   916
                                                                                                                                                                                                                                           676
                                                                                                                                                                                                                                                                616
                                                                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                                      556
                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                   256
                                                                       380
                                                                                                                                                                                    280
                                                                                                                                                                                               796
                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                            496
                                                                                                                                                                                                                                                                                                                       160
                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                      RESULT 6
AB009459
LOCUS
                                                                                                                                           δÃ
                                                                                                                                                                  δÃ
                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                             g
                                                                                                                      δÃ
                                                                                                                                  밁
                                                                                                                                                        밁
                                                                                                                                                                              В
                                                                                                                                                                                                    В
                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                           В
                                 REFERENCE
                                                                                  DEFINITION
JOURNAL
MEDLINE
                TITLE
                                                                                                             2051
                                                                                                                                                                              1871
                                                                                                                                                                                                                          1754
                                                                                                                                                                                                                                                1694
                                                                                                                                                                                                                                                                     1634
                                                                                                                                                                                                                                                                                                                                       1454
                                                                                                                                                        1931
                                                                                                                                                                                                                                                                                           1574
                                                                                                                                                                                                                                                                                                                 1514
                                                                                                                                                                                                     1814
                                                                                                                                  1991
                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                         620
                                                                                                                                                                   640
```

```
В
                                                                                                                                                                                                                    GluAsnIleIleSerAspPhe
|||||||||||||||:::|||
GAGAACATAATAAGTAATTTC
                                                                                                                                                                                                                                                                                                             CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTGGGGCGGCAGACCAGTATGGGGTCTACACAAAAGTCATCAACTATATTCCCTGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAAAGTCACAATCAACGGAAGCATCATGCCTGTTTGCCTACCGCGAAAAGAAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnLysValValIleAsnSerAsnIleThrProTleCysLeuProArgLysGluAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATGAAGGCTACACTCACGGTGCTGGTTTTGACAATGATATAGCATTGATTAAACTCAAG
                                                                                                                         Mus musculus Masp-2 n
serine protease-2, cc
AB009459
AB009459.1 GI:392851
                                                                                         Mus
         matsushita,M., Nonaka,M. and Fujita
Matsushita,M., Nonaka,M. and Fujita
Two lineages of mannose-binding lect
(MASP) in vertebrates
                                            Endo, Y.
                                                                             Eukaryota;
                                                                   Mammalia;
                                                                                                                mannose-binding
Immunol. 161
                                                        (sites)
                                                                                                 nose-binding lectin associated serine protease-2 musculus (strain:BALB/c) 8 weeks liver cDNA to r
                                Takahashi, M., Nakao,
La, M., Nonaka, M. and
                                                                  ; Metazoa; Chordata;
Eutheria; Rodentia;
                                                                                                                                               2090 bp mRNA 1:
2 mRNA for mannose-binding
complete cds.
                                                                                                                                                                                                                                           686
                                           <u>`</u>
                                                               Craniata; Ver
Sciurognathi;
                      lectin-associated
                                           Saiga, H.,
                                                                             Vertebrata;
                                                                                                                                                                       linear
                                            Sekine
                                                                  Muridae;
                                                                                                                                                           lectin
                     serine
                                                                                                     mRNA
                                                                             Eutel
                                                                                                                                                           associated
                     protease
                                                                                                                                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            499
                                                                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                                                                                              619
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               519
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                           Query
DB:
                                                                                                                                                                                                                                                                                                                                                              BASE CONTIGIN
 В
                  Qy
                                       Вþ
                                                          δÃ
                                                                                 B
                                                                                                  QУ
                                                                                                                            р
                                                                                                                                              Qy
                                                                                                                                                                     Вþ
                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                              Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                        COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                      Match:
  333
                    101
                                                                                                                                                                                                                                                       874-198-2 (1-686) x AB009459
                                         273
                                                                                                                             153
                                                             81
                                                                                                       61
                                                                                                                                                 41
                                                                                                                                                                      93
                                                                                                                                                                                        21
                                                                                                                                                                                                              \omega_{\omega}
                                                                                                                                                                   MetArgLeuThrLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
           ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
Submitted (04-DEC-1927) Minoru Takahashi, Fukushima Med College, Department of Biochemistry; 1 Hikarigaoka, Fuk Fukushima 960-1295, Japan (E-mail:minolta@cc.fmu.ac.jp, Tel:81-24-548-2111, Fax.81-24-548-6760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (bases 1 to 2090)
Takahashi, M., Fujita, T.,
                                                                                                                                                                                                                                                                                                                                                                        522
                                                                                                                                                                                                                                                                                                                                                                                        /translation="MRLLIFLGLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYADHOD / Translation="MRLLIFLGLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYADHOD RSWTLFAPPOYRLRLYETHFDLELSYRCEYDEFWLSSGTWLATLCGQESTDTEOARG NDTFYSLGPSLKVTFHSDYSNEKPFTGFEAFYAAEDVBECRYSLGDSVPCDHYCHNYL GGYYCSCRAGYILHONNHTCSALCSGOVETGRSCYLSSPEYPOPYPKLSSCTYSIRLE DGFSVILGYPUSETDVETHPEAQCPYDSLKIQTDKGEHGPECGKTLPPRIETDSHKYTI TFATDESGNHTGWKIHYTSTARCCPDPTAPPMGSISPVOATYVLKDFSSVCKYTGFEL LQGSVPLKSFTAVCOKOGSWDERMPGSISIDCGPDDLLHNGHDVITGROVTTYRAVI OYSCEETFYTMSSNGKYVCEADGFWTSKGEKLPPVCEPVCGLSTHTIGGRIVGGOPA KPODFPWOYLLLGOTTHAAAALKKNKVTINGSIMPVCLPRKEAASLHRTDF TGTVAGWGLTOKGLARNLMFVDIPIADHQKCTTVYEKLYPGVRSANMLCAGLETGG KDSCRODSGGALVFLDNETORWFVGGIVSWGSINCGAAAGQYGVYTKVINXIPWNENII KNEWSTINGSIMPVCLPRKEAASLHRTDF TGTVAGWGLTOKGLLARNLMFVDIPIADHQKCTTVYEKLYPGVRSANMLCAGLETGG KDSCRODSGGALVFLDNETORWFVGGIVSWGSINCGAAAGQYGVYTKVINXIPWNENII
                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /protein_id="BAA34674.1"
/db_xref="GI:3928517"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="Masp-2"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="Masp-2"
33. .2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:10090"
/tissue_type="liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /strain="BALB/c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /dev_stage="8
L. .2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                          1.11e-234
3062.50
88.50%
81.22%
81.49%
                                                                                                                                                                                                                                                                                                                                                                        548
                                                                                                                                                                                                                                                                                                                                                                        ဂ
                                                                                                                                                                                                                                                                                                                                                                        537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     weeks"
                                                                                                                                                                                                                                                       (1-2090)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Endo, Y.
                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and Matsushita, M.
                                                                                                                                                                                                                                                                                                                                                                      ¢
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lectin associated
                                                                                                                                                                                                                                                                         2090
558
50
76
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fukushima,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Medical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       serine
                                                             100
                                         3 3 2
                                                                                  272
                                                                                                      80
                                                                                                                            212
                                                                                                                                                60
                                                                                                                                                                                         40
                                                                                                                                                                                                              92
                           δÃ
         밁
                                                   В
                                                                      δÃ
                                                                                           Вþ
                                                                                                              δÃ
                                                                                                                                     В
                                                                                                                                                        Qy
                                                                                                                                                                              В
                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                               1173
                                                                                                                                                                                                                       1113
         1410
                                                                                           1290
                                                                                                                                      1233
                                                                                                                                                                                                                                                                1053
                              461
                                                                                                                421
                                                                                                                                                          401
                                                                                                                                                                                                   381
                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                     341
                                                                                                                                                                                                                                                                                                         993
                                                                                                                                                                                                                                                                                                                                                  933
                                                                                                                                                                                                                                                                                                                                                                                           873
                                                                                                                                                                                                                                                                                                                                                                                                                                     813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            453
                                                                                                                                                                                                                                                                                                                            321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
```

```
480
                                                                                                                                                                                                                                                                                                                                                                   GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                     TTGTTGCTGGGTCAAACTACAGCAGCAGCAGGTGCACTTATACATGACAATTGGGTCCTA
                                  LeuIleLeuGlyGlyThrThr---AlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeu
                                                                                                                                 SerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAlaArgThr
                                                                                                                                                                                   TyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSer
                                                                                                                                                                                                                      ACAGGCCCTCAAGTGACTACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACTTTC
                                                                                                                                                                                                                                  ThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCCCCTATGACTCCCTCAAGATTCAAACAGACAAGGGGGAACACGGCCCATTTTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMet
                                                                        ATAGGAGGACGCATAGTTGGAGGGCAGCCTGCAAAGCCTTGGTGACTTTCCTTGGCAAGTC
                                                                                  ThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnVal
                                                                                                                       TACACAATGAGCAGCAAT----GGTAAATATGTGTGTGAGGCTGATGGATTCTGGACGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAATGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
 499
                         1469
                                                479
                                                                        1409
                                                                                                460
                                                                                                                       1349
                                                                                                                                                                                              420
                                                                                                                                                                                                                      1232
                                                                                                                                                                                                                                                                    1172
                                                                                                                                                                                                                                                                                                                                                                    1052
                                                                                                                                              440
                                                                                                                                                                      1289
                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                    1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                             380
                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              452
                                                                                                                                                                                                                                                                                                                                                                                                                   992
                                                                                                                                                                                                                                                                                                                                                                                                                                         320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
```

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
RNO277747
                                                    FEATURES
                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                          Snoor
                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                     NITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaalaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAla
||||||||
|ACCGTGTATGAAAAG----CTCTATCCAGGAGTAAGAGTAAGCGCTAACATGCTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GluAsnIleIleSerAspPhe 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGAACATAATAAGTAATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGATAATGAGACACAGCGATGGTTTGTGGGAGGAATAGTTTCCTGGGGTTCCATTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCTTAATGAGAACAGACTTCACTGGAACTGTGGCTGGGGGGGTTAACCCAGAAGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGAAGGCTACACTCACGGTGCTGGTTTTGACAATGATATAGCATTGATTAAACTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsn 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCATCCTCAAAAAGGCTCTCACCTCATTACACTCAAGCCTGGCCCGAGGAAATCTTTATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAAAGTCACAATCAACGGAAGCATCATGCCTGTTTGCCTACCGCGAAAAGAAGCTGCA 1709
                                                               Direct Submission
Submitted (06-MAY-2000) Wallis R.,
Glycobiology Institute, University
Oxford OX1 30U, UNITED KINGDOM
                                                                                                                                                                                      Interaction of mannose-binding protein with associated proteases: effects of naturally occurring mutations J. Biol. Chem. 275 (40), 30962-30969 (2000)
                                                                                                                                                                                                                                                                                                            Norway rat.
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                         AJ277747
AJ277747.1
                                                                                                                               Wallis, R.
                                                                                                                                                                                                                                    Wallis, R. and Dodd, R.B.
                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                         mannose-binding protein associated serine
                                                                                                                                                                                                                                                                                                                                                                                        associated serine
                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus
                                                                                                                                                           10913141
                                                                                                                                                                             20469449
                                                                                                                                                                                                                                                                    Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                        RNO277747
                                                                                                                                          (bases 1 to
                                                                                                                                                                                                                                                   (bases 1 to 2037)
/oryanism="Rattus norvegicus"
/db_xref="taxon:10116"
                                      Location/Qualifiers
1. .2037
                                                                                                                                                                                                                                                                                                                                                          GI:7799288
                                                                                                                                           2037)
                                                                                                                                                                                                                                                                                                                                                                                  2037 bp mRNA linear partial mRNA for mannose-binding protease-2 (masp-2 gene).
                                                                               Department of Oxford,
                                                                                                                                                                                                                                                                                                                                          protease-2;
                                                                               of Biochemistry,
South Parks Road
                                                                                                                                                                                                                                                                                                                                                                                                   ROD 05-OCT-2000 protein
                                                                                                                                                                                                                                                                                                                                          MASP-2
                                                                                                                                                                                                                     serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   519
                              ρ
                                                              밁
                                                                                          γo
                                                                                                                          밁
                                                                                                                                                  Qy
                                                                                                                                                                                     밁
                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                          Вр
                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-874-198-2 (1-686) x RNO277747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No.:
   421
                                                               361
                                                                                            128
                                                                                                                          301
                                                                                                                                                        108
                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                            121
                                 148
                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                 88
                                                                                                                                                                                                                                                                            89
                                                                                                                                                                                                                                                                                                                                         48
                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                   28
                                                                                                                                                                                                                                                                                                                                                                                                                                  \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                œ
                                                                                                                                                                                                                                                                                                                                                                                                                                GTCTGCTTTGGAGTTTGGTGGCCACACTTTTGGGCTCCAAGTGGCCTGAGCCTGTATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyLeuLeuCysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPhe
GluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSerCys
:::::
|||||||||:::|||||||:::|||||||||
GACTCAGTCCCTTGTGACCATTATTGCCACAACTACCTGGGCGGCTACTACTGCTCCTGC
                                                          ACGCTGACTGCACCCCCTGGCTTCCGCCTGCGCCTCTACTTCACCCACTTCAACCTGGAA
                                                                                                                                                                                                                                                                                                                         ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                    GlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                   ThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPheTyr
                                                                                                                                                                                                                                                CTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGACCTCAGGGACCAAGGTGCTAGCC
                                                                                                                                                                                                                                                               LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysValLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scores:
                                                                                                                                                                                   ACGCTGTGTGGGCAGGAGAGTACAGATACTGAGCGGGCACCTGGCAATGACACCTTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="GLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYGNHQDRSWTLTA

PPGFRLRLYFTHFINLELSYRCEYDFYKLTSGTWLATLLGQCSSTDTERAPGNDTFYSL
GPSLKVTFHSDYSNEKFFTGFEAFYAARDEDVDECRTSLGDSVPCDHYCHNYLGGYYCSC
RVGYILHQNKHTCSALCSGQVFTGRSGFLSSPEYPQPYRLSSCAYNIRLEEGFSTTL
DFVESSTDVEMHPEAQCPYDSLKIQTDRREYGFFCGKTLPRIETDSNKVTTTFTTDES
GNHTGWKIHYTSTAQPCPDPTAPPNGHISPVQATVYLDPRIETDSNKVTTTFTTDES
GNHTGWKIHYTSTAQPCPDPTAPPNGHISPVQATVYLDPRIETDSNKVTTTFTTDES
GNHTGWKIHYTSTAQPCPDPTAPPNGHISPVQATVYLDPRIETUSAKVTYKAVIQYSCEET
FYTMSSNGKYVCEADGFWTSSKGEKSLPVCKPVCGLSTHTSGGRIIGGQPAKPGDFPW
QVLLLGETTAAGALHHDDWVLTAAHAVYGKTEAMSSLDIRMGILKRLSPHYTQAGWG
LTQKGFLARNLWFVDIFTVDHQKCATAYNKQPYBGAKVTVNMLCAGLDAGGKDSCRGD
LTQKGFLARNLWFVDIFTVDHQKCATAYNKQPYBGAKVTVNMLCAGLDAGGKDSCRGD
SGGALVFLDNETQRWFYGGIVSWGSINCGGSEQYGVYTKVTNYIPWIENIINNF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protease-2"
3 544 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="masp-2"
37. .2034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protease-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="mannose-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="masp-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <1. .36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /protein_id="CAB90832.1"
/db_xref="GI:7799289"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="mannose-binding protein associated serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="masp-2"
/function="complement activation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_lib="liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.65e-234
3054.50
88.51%
80.56%
81.28%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-2037)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2037
547
54
77
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              serine
                                                                                                                                                     127
                              167
                                                            420
                                                                                                                                                                                                                 107
                                                                                                                                                                                                                                                                                                          180
                                                                                            147
                                                                                                                          360
                                                                                                                                                                                   300
                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                       67
                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                   47
                                                                                                                                                                                                                                                                                                                                                                                                                                60
```

В Š B Š В ρy Вþ Ş В οy 밁 Š В δÃ В õ B Ş B

```
В
                                      Qy
                                                                                                                                                                                  Qy
B
           Š
                                                     Вb
                                                                 Qγ
                                                                                 B
                                                                                              δÃ
                                                                                                             В
                                                                                                                          Qy
                                                                                                                                         В
                                                                                                                                                                                                В
                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                          Вр
                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΩV
1498
                           1438
                                                                                                                                                                                                                            1021
                                                                                                                                          1198
                                                                                                                                                                     1141
                                                                    468
                                                                                                                                                                                                              368
                                                                                                                                                       408
                                                                                                                                                                                  388
                                                                                                                                                                                                                                          348
                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                    328
                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                               308
                                                                                                                                                                                                                                                                                                                          288
                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                  248
                                                                                                                                                                                                                                                                                                                                                                                                              228
                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                        HisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAla
                         CATTACACTCAAGCCTGGCCAGAGGCTGTCTTTATCCATGAAGGCTACACTCACGGAGCT
                                                    TACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACTTTCTACACAATGAGCAGCAAT---
                                                                                                                                                                            TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysValAsnAsp
                                                                                                                                                                                                CCTCCCGATGACCTACCCAATGGCCACGTGGACTATATCACAGGCCCTGAAGTGACCACC
                                                                                                                                                                                                       ProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGlyValThrThr
                                                                                                                                                                                                                                   CysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAspCysGly
                                                                                                                                                                                                                                                     GlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAlaProPro
                                                                                                                                                                                                                                                                                                                                       ATTCAAACAGACAAGAGGGAATACGGCCCGTTTTGTGGGAAGACGCTGCCCCCAGGATT
                                                                                                                                                                                                                                                                                                                                                                           GTGGAGTCCTTTGATGTGGAGATGCACCCTGAAGCCCAGTGCCCCTACGACTCCCTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                      ValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCAGAAAGATGGATCTTGGGACCGGCCGATACCAGAGTGCAGCATTATTGACTGTGGC
                                                                                                                                                                                                                                                                                                             GGCTGGAAGATACACTACACAAGCACAGCACAGCCCTGCCCTGATCCAACGGCGCCACCT
                                                                                  1377
                         1497
                                                                   487
                                                                                                467
                                                                                                                          447
                                                                                                                                        1257
                                                                                                                                                      427
                                                                                                                                                                                                1140
                                                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                       507
                                                                                                                                                                                  407
                                                                                                                                                                                                              387
                                                                                                                                                                                                                                         367
                                                                                                                                                                                                                                                                    347
                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                327
                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                          307
                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                      287
                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                             247
                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                        227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               187
```

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
RNO18572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1678
                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGACATACCAATTGTTGACCACCAAAAATGTGCTACTGCGTATACAAAGCAGCCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCATGCCGATTTGTCTACCAAGAAAAGAAGCTGCATCCTTAATGAAAACAGACTTCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTTTTGACAATGATATAGCACTGATTAAACTCAAGAACAAAGTCACAATCAACAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTGTGGGAGGAATAGTTTCCTGGGGTTCTATTAACTGTGGGGGGTCAGAACAGTATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus Norvegicus mRN.

Y18572

Y18572.1 GI:6689100

MASP-2 gene; MASP-2 p.

Rattus norvegicus.

Rattus norvegicus
                                                                                                                                                                                                Direct Submission
Submitted (23-DEC-1998) C.M.
and, Immunology, University of Leicester LE1 9 HN, UK
                                                                                                                                                                                                                                                 2 (bases 1
Stover, C.M.
                                                                                                                                                                                                                                                                                                Stover.C.M., Thiel,S., Lynch,N.J. and Sc
The rat and mouse homologues of MASP-2 at
lectLin activation pathway of complement
J. Immunol. 163 (12), 6848-6859 (1999)
                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 1937)
Stover, C.M., Thiel, S.,
                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RNO18572
                                                                                                                                                                                                                                                                            10586086
/gene="MASP-2"
/codon_start=1
/prodict="MASP-2 protein"
/protein_id="Cab65389.1"
/protein_id="Cab65389.1"
/db_xref="01:6689101"
/translation="QDRSWTLTAPPGFRLRLYFTHFNLELSYRCEYDFVKLTSGTKVLATLCGQESTDTERAPGNDTFYSLGPSLKVTFHSDYSNEKPFTGFEAFYAAEDVDECRT
                                                                                        /gene="MASP-2"
<1. .1932
                                                                                                                                                 /organism="Rattus
/strain="Fisher 34
                                                                                                               /clone="prl-8"
1. .1937
                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                      /db_xref="taxon:10116"
                                                                                                                                                                                                                                                               to
                                                                                                                                                                           .1937
                                                                                                                                                                                                                                                               1937)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA
                                                                                                                                                                                                                                                                                                                                                                         Chordata; Craniata; Vertebrata; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                         protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1937
for M/
                                                                                                                                                     us norvegicus'
344"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MASP-2
                                                                                                                                                                                                              of Leices
                                                                                                                                                                                                            tover, Department of Microbiology Leicester, University Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                      Schwaeble
                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
partial,
                                                                                                                                                                                                                                                                                                                           MAp19,
                                                                                                                                                                                                                                                                                                                                     , W.J.
                                                                                                                                                                                                                                                                                                                           components
                                                                                                                                                                                                                                                                                                                                                                          Eutel; Muri
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ROD 26-JAN-2000 clone prl-8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               587
                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                           the
```

BASE CO

Alignment COUNT polyA\_signal c Similarity: ocal Similarity: 601 243 541 Match: ð 263 223 481 203 421 183 361 163 301 143 241 123 181 103 121 874-198-2 83 61 63 43 LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu ValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCysPro CAGCCATACCCCAAACTCTCCAGCTGCGCCTACAACATCCGCCTGGAGGAAGGCTTCAGT ArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSer AlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly CACTTCAACCTGGAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGACCTCAGGG HisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGly Scores: ATCACCCTGGACTTCGTGGAGTCCTTTGATGTGGAGATGCACCCTGAAGCCCAGTGCCCC ACCAAGGTGCTAGCCACGCTGTGTGGGCAGGAGAGTACAGATACTGAGCGGGCACCTGGC (1-686)501 a /gene="MASP-2" 1933..1937 /gene="MASP-2" a 516 c 47! SLGDSVPCDHYCHNYLGGYYCSCRVGYILHQNKHTCSALCSGQVFTGRSGFLSSPEYP
OPYPKLSSCAYNIRLEEGFSITLDFVESFDVEMHPEAQCPYDELKIOTDKREYGPFCG
KTLPPRIETDSNKVTITFTTDESGNHTGWKIHYTSTAQPCPDPTAPPNHISPVQATY
VLKDSFSVFCKTGFELLGGSVPLKSFTANCQKDGSWDRFIPEGSIIDCGPDDLPNH
VDYITGPEVTTYKAVIOYSCEFTFYTMSSNGKVCEADGFWTSKGEKSLPVCKPVCG
LSTHTSGGRIIGGOPAKPGDFPWQVLLLGETTAAGAALINDDWVLTAAHAVYGKTEAMS
SLDIRMGILKRLSLIYTQAWPEAVFIHEGYTHGAGFDNDIALIKLKNKYTINRNIMPI
CLPRKEAASLHKTDFVCTVAGWGCLTQKGFLARNLMFVDIPIVDHQKCATAYTKQPYPG
AKVTVNMLCAGLDRGGKDSCRGDSGGALVFLDNETQRWFVGGIVSWGSINCGGSEQYG
VYTKVTNVILPWIENIINE" 6.9e-222 2901.50 88.82% 80.75% 77.21% x RNO18572 475 (1-1937) Length:
Matches:
Conservative:
Mismatches:
Indels: 9 Gaps: 445 660 600 242 540 480 420 182 360 162 300 142 180 102 120 82 60 62 282 262 202 240

δδ В Qγ

dd Vy

DЬ δÃ B 64 B

δō

δ

밁

å S

₽ %

Š В Ωy

us-09-

B

밁 δÃ В Š δ οy В Qy 밁 δÃ Qy 밁 Ωy В Qγ В QΥ οy δÃ Ş Q B δõ Вр Š В δ В δÃ 밁 В В 멍 밁 Ъ 밁 В 1558 1378 1318 1258 1198 1138 1021 1498 1081 1678 623 583 543 523 483 463 443 423 403 383 961 363 901 343 841 323 781 303 721 661 MetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLys SerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyr ||||||:::||||||||||||| |TCAGGGAACCACACAGGCTGGAAGATACACTACACAAGCACAGCACCAGCCCTGCCCTGAT ACAATCAACAGAAACATCATGCCGATTTGTCTACCAAGAAAAGAAGCTGCATCCTTAATG VallleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet CCTGAAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACTTTCTACACA ProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThr ATTATTGACTGTGGCCCTCCCGATGACCTACCCAATGGCCACGTGGACTATATCACAGGC CTGCCCCCAGGATTGAAACTGACAGCAACAAGGTGACCATTACCTTTACCACCGACGAG 1677 1377 1317 1257 1197 1080 1617 1557 1497 542 1437 502 482 462 442 422 402 1020 642 622 602 582 562 522 382 960 362 900 342 840 322 780

```
BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
               Pred. No.:
                              Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RNO18564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NOIS
                                                                         COUNT
                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1918
                                                                                                                               polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KNISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleSerAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATAAATAATTTC 1929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stover,C.M.
Stover,C.M.
Direct Submission
Direct Submitsed (23-DEC-1998) C.M. Stover, Department of Microbiology Submitted (23-DEC-1998) C.M. Stover, Department of Microbiology and, Immunology, University of Leicester, University Road, relicester LEI 9 HN, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Stover, C.M., Thiel, S., Lynch, N.J. and Sc
The rat and mouse homologues of MASP-2 a
lectin activation pathway of complement
J. Immunol. 163 (12), 6848-6859 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MASP-2 gene; MASP-2
Rattus norvegicus.
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus Norvegicus mRI
Y18564
Y18564.1 GI:6822242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RNO18564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10586086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 1898)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 1898)
                                                                          512
                                                                                                                                          /product="MASP-2 protein"
/product="MASP-2 protein"
/prodein_id="CAB70973.1"
/db_xref="G1:682243"
/db_xref="G1:682243"
/translation="HFNLELSYRCEYDFVKLTSGTKVLATLCGQESTDTERAPGNDTF
/translation="HFNLELSYRCEYDFVKLTSGTKVLATLCGQESTDTERAPGNDTF
/SCRWYXILHONKHTCSALCSGOVFTGRSGFLSSPEYPQFYFKLSSCAYNIRLEEGFY
YSLGPSLKVTFHSDYSNEKPFTGFEAFYAAEDVDECRTSLEDSNKVTITFTT
CSCRWYXILHONKHTCSALCSGOVFTGRSGFLSSPVQATYYLAVGSFSVFCKRGFELLOGS
ITLDFVESFDVEMHPEAQCPYDSLKIQTDKREKGEPGKTLPPRLETDSNKVTITFTT
DESCNHTGWKIHYTSTAQPCPDPTAPPNGHISPVQATYLKDSFSVFCKRGFELLOGS
VPLKSFTAVCQKDGSWDRPIPECSIIDCGPPDDLPNGHUDYITGPEVTTYKAVIQYSC
EETFTTMSSNGKYVCEADGFWTSSKGEKSLPVCKPVCGLSTHTSGERIIGGQPAKFGD
FFWQVLLLGETTAAGALIHDDWVLTAAHAVYGKTEAMSSLDIRMGIKRISLITTQAW
PEAVFTIHEGYTHGAGFDNDIALIKLKNKYTINRIMPICLPRKEAASLMKTDFVGTVA
GWGLTQKGFLARNLMFVDIPYUDHQKCATAYTKQPYPGAKVTVNNLICAGLDRGKDSC
RGDSGGALVFLDNETQRWFVGGIVSWGSINCGGSEQYGVYTKVTNYIPWIENIINNF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Norvegicus mRNA
                                                                          þ
                                                                       /gene="MASP-2"
1875..1898
/gene="MASP-2"
a 492 c 46
                                                                                                                                                                                                                                                                                                                                                                                 /gene="MASP-2"
<1. .1874
                                                                                                                                 1859.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Rattus norvegicus"
/strain="Fisher 344"
                                                                                                                                                                                                                                                                                                                                                      /codon_start=3
                                                                                                                                                                                                                                                                                                                                                                  /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                          'clone="prl-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                686
 5.26e-214
2802.50
                                                                                                                                                                                                                                                                                                                                                                                                                 .1898
                                                                                                                                  .1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1898
for M/
                                                                     ۵
Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                         432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schwaeble,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
1898
503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAp19, components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          partial clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , ₩
. J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ROD 28-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prl-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
             γ
                                                                    δÕ
                                                                                                  DЪ
                                                                                                                            Qy
                                                                                                                                                           В
                                                                                                                                                                                     Qy
                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                     Ър
                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
               383
                                          903
                                                                                                                                                            783
                                                                                                                                                                                         323
                                                                                                                                                                                                                     723
                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                             663
                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                  263
                                                                                                                                                                                                                                                                                                                                                                                               543
                                                                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                           ArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
             ProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThr
                                                        SerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSer
                                                                                                                                                                           SerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLys
                                                                                                                                                                                                                                    ProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VallleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGACTACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysAspThrPheTyrSerLeuGlySerSerLeuAspTleThrPheArgSerAspTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGly
                                          ATTATTGACTGTGGCCCTCCCGATGACCTACCCAATGGCCACGTGGACTATATCACAGGC
                                                                                                    TCATTCACTGCTGTCTGAGAAAGATGGATCTTGGGACCGGCCGATACCAGAGTGCAGC
                                                                                                                                                            AGCTTTTCTGTCTTCTGCAAGACTGGCTTCGAGCTTCTGCAAGGTTCTGTCCCCCTGAAG
                                                                                                                                                                                                                      CCAACGGCGCCACCTAATGGTCACATTTCACCTGTGCAAGCCACGTATGTCCTGAAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCACCCTGGACTTCGTGGAGTCCTTTGATGTGGAGATGCACCCTGAAGCCCAGTGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCCATACCCCAAACTCTCCAGCTGCGCCTACAACATCCGCCTGGAGGAAGGCTTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTTGTTCAGGCCAGGTGTTCACTGGGAGGTCTGGCTTTCTCAGTAGCCCTGAGTACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCAAGGTGCTAGCCACGCTGTGTGGGCCAGGAGAGTACAGATACTGAGCGGGCACCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACTTCAACCTGGAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGACCTCAGGG
88.62%
80.61%
74.57%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       x RNO18564 (1-1898)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative: Mismatches: Indels:
```

162

362 182 302

202

142

242

122

62

182

382

362 842 342

902

302

662 282 602 262 542 242 482

```
SOURCE
ORGANISM
                                        VERSION
KEYWORDS
                                                           DEFINITION ACCESSION
                                                                              RNO18566
LOCUS
                                                                                                                                                                                              망
                                                                                                                                                                                                1740
                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                     1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1023
                                                                                                                   1860
                                                                                                                                                          0081
                                                                                                                                                                             663
                                                                                                                                                                                                                  643
                                                                                                                                                                                                                                                                                                                                  583
                                                                                                                                                                                                                                                                                                                                                                                                            543
                                                                                                                                                                                                                                                                                                                                                                                                                                                   523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                     089
                                                                                                                                                                                                                                                       623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260
             Rattus No...
Y18566
Y18566.1 GI:6689088
MASP-2 gene; MASP-2 p:
Rattus norvegicus.
Rattus norvegicus.
                                                                                                                                                                                           GluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                       GlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle
                                                                                                                                                                                                                                                                        ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyr
                                                                                                                                                                                                                                                                                                                                                              ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATGCTGTATATGGGAAAAACAGAGGCGATGTCCTCCCTGGACATCCGCATGGGCATCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisalaValTyrGluGlnLysHisaspAlaSerAlaLeuAspIleArgMetGlyThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLys
                                                                                                                   ATAAATAATTTC 1871
                                                                                                                                     IleSerAspPhe 686
                                                                                                                                                                                                                                                                                                              AGAAACCTAATGTTTGTGGACATACCAATTGTTGACCACCAAAAATGTGCTACTGCGTAT
                                                                                                                                                                                                                                                                                                                                                    AAAACAGACTTCGTTGGAACTGTGGCTGGCTGGGGGTTAACCCAGAAGGGGTTTCTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCCGTATAATTGGAGGACAGCCTGCAAAGCCTGGTGACTTTCCTTGGCAAGTCTTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAGCAGCAAT - - - GGTAAATATGTGTGTGAGGCTGATGGATTCTGGACGAGCTCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGAAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACTTTCTACACA
  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                              RNO18566
                                                                    mRNA
   Chordata;
Rodentia;
                                        protein
                                                                   for
                                                                            1657
                                                                   57 bp
MASP-2
Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                  mRNA
protein,
                                                                  linear
partial,
   Muridae;
           Euteleostomi;
                                                                 ROD 26-JAN-2000 clone prl-3.
                                                                                                                                                         1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1022
                                                                                                                                                                                                                                    1739
                                                                                                                                                                                                                                                                        1679
                                                                                                                                                                                                                                                                                                                                                    1559
                                                                                                                                                                                                                                                                                                                                                                                        1499
                                                                                                                                                                                                                                                                                                                                                                                                                               1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    422
                                                                                                                                                                           682
                                                                                                                                                                                                                662
                                                                                                                                                                                                                                                      642
                                                                                                                                                                                                                                                                                                               1619
                                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                                      582
                                                                                                                                                                                                                                                                                                                                                                                                          562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL.
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
          Ş
                                              Qy
                                                                 Ъ
                                                                                  δÃ
                                                                                                       Вb
                                                                                                                        Ş
                                                                                                                                             멍
                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                             3 ' UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                polyA_signal
                                                                                                                                                                                                                                                     8
0
::
           227
                             188
                                                                  128
                                                                                    187
                                                                                                                          167
                                                                                                                                                                  147
                                                                                                       8
                                                                                                                                              œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus.
```

Ş Ъ

В

Š

Ş

밁 Q δÃ Вb QΥ В Ş В Ş

밁

В

Q В

В Ş δ В Ş

Ş

g

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                  US-09-874-198-2 (1-686)
                                                                                                                                                            GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro
                                                                                                                                                                                                                    GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer
|||||:::::
|GGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACCTGGGCGGCTACTACTGCTCC
PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                 LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                         CAGGTGTTCACTGGGAGGTCTGGCTTTCTCAGTAGCCCTGAGTACCCACAGCCATACCCC
                                                            AAACTCTCCAGCTGCGCCTACAACATCCGCCTGGAGGAAGGCTTCAGTATCACCCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 (bases 1 to 1657)
Stover, C.M.
Direct Submission
Submitted (23-DEC-1998) C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Stover.C.M., Thiel,S., Lynch,N.J. and Schwaeble,W.J. The rat and mouse homologues of MASP-2 and MAP19, collectin activation pathway of complement J. Immunol. 163 (12), 6848-6859 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and, Immunology, Unive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10586086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="MASP-2"
1628. .1657
/gene="MASP-2"
a 425 c 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /Translation="SCOSVPCDHYCHNYLGGYYCSCRVGYILHQNKHTCSALCSGQV

/TGRSCGTLSSEBYPOPYPKLSSCAYNIRLEBGFSITLDFVESEDVEMHPEAQCPYDSL

KIQTDKREYGPFCGKTLPPRIETDSNKVTITFTTDESGNHTGWKIHYTSTAQPCPDPT

APPNGHTSPVQATYVLKDSFSVFCKTGFELLQGSVPLKSFTAVCQKDOSWDRPIPECS

IIDCGPPDDLPNGHVDYITGPEVTTYKAVIQYSCEETFYTMSSNGKYVCEADGFWTSS

KGEKSLEVCKFVCGLSTHTSGGRIIGGQPAKFCDFPWQYLLLGETTAAGALIHDDWVL

TAAHAYYGKTEAMSSLDIRMGILKRLSLIYTQAMPEAVFIHEGYTHGAGFDNDIALK

LKNKVTINRNINPICLPRKEAASLMKTDFVGTVAGWGLTQKGFLARNLMFVDIFIVDH

QKCATAYTKQFYPGAKYTVNMLCAGLDRGGKDSCRGDSGGALVFLDNETQRWFVGGIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWGSINCGGSEQYGVYTKVTNYIPWIENIINNF" 1612. .1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=2
/product="MASP-2 protein"
/protein_id="CAB65383.1"
/db_xref="GI:6689089"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <1. .1627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="Fisher 344"
/db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Rattus norvegicus"
/strain="Fisher 344"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone="prl-3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . . 1657
                                                                                                                                                                                                                                                                                                                                                                                                                       3.5e-184
2427.50
88.33%
80.37%
64.60%
                                                                                                                                                                                                                                                                                                                                                                                  x RNO18566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to 1657)
Thiel, S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C-1998) C.M. Stover, Department of Microbiology University of Leicester, University Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          400
                                                                                                                                                                                                                                                                                                                                                                                    (1-1657)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          381
                                                                                                                                                                                                                                                                                                                                                                                                                       1657
434
43
62
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                components
                                                                                                 226
                                                                                                                                         187
                                                                                                                                                                              206
                                                                                                                                                                                                                    127
                                                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                                                                                     67
                      246
                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of.
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                γ
                                                          οy
                                                                                 Вb
                                                                                                  Qy
                                                                                                                         а
                                                                                                                                            Qy
                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                         γQ
                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                     дb
                                                                                                                                                                  Ъ
                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                              В
В
1325
                                                                                  1205
                                                                                                                         1145
                                                                                                                                                                   1085
                                                                                                                                                                                                             1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247
                    587
                                                             567
                                                                                                    547
                                                                                                                                              527
                                                                                                                                                                                        507
                                                                                                                                                                                                                                                                          467
                                                                                                                                                                                                                                                                                               905
                                                                                                                                                                                                                                                                                                                                       845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                 487
                                                                                                                                                                                                                                                                                                                   447
                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                788
                                                                                                                                                                                                                                                                                                                                                                                                     407
                                                                                                                                                                                                                                                                                                                                                                                                                          728
                                                                                                                                                                                                                                                                                                                                                                                                                                            387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       308
                                                                                                                                                                                                                                                    GlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThr
                                                                                                                                                                                                                                                                                                                                                                               ValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAspCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheCysGluThrGlyTyrGluLeuGlnGlyHisLeuProLeuLysSerPheThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPheSerIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHisArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCGTGGAGTCCTTTGATGTGGAGATGCACCCTGAAGCCCAGTGCCCCTACGACTCCCTC
         TyrValAspI1eProI1eValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                  IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet
:::||||||
:::||||||
                                                                                                                                                                                                                      GluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSer
                                                                                                                                                                                                                                                                                                                                       LeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCTGTCAGAAAGATGGATCTTGGGACCGGCCGATACCAGAGTGCAGCATTATTGACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTGCAAGACTGGCTTCGAGCTTCTGCAAGGTTCTGTCCCCCTGAAGTCATTCACTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTAATGGTCACATTTCACCTGTGCAAGCCACGTATGTCCTGAAGGACAGCTTTTCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAGGCTGGAAGATACACTACACAAGCACAGCACAGCCCTGCCCTGATCCAACGGCGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGAAACTGACAGCAACAAGGTGACCATTACCTTTACCACCGACGAGTCAGGGAACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGTGGACATACCAATTGTTGACCACCAAAAATGTGCTACTGCGTATACAAAGCAGCCC
                                        GTTGGAACTGTGGCTGGCGGGGTTAACCCAGAAGGGGTTTCTTGCTAGAAACCTAATG
                                                                                  AACATCATGCCGATTTGTCTACCAAGAAAAGAAGCTGCATCCTTAATGAAAACAGACTTC
                                                                                           ASnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                             GGGAAAACAGAGGCGATGTCCTCCCTGGACATCCGCATGGGCATCCTCAAAAGGCTCTCC
                                                                                                                                                                                                                                                                                              GGAGGACAGCCTGCAAAGCCTGGTGACTTTCCTTGGCAAGTCTTGTTACTGGGTGAAACT
                                                                                                                                                                                                                                                                                                                   466
                                                                                  1264
                                                                                                                          1204
                                                                                                                                                                   1144
                                                                                                                                                                                                             1084
1384
                                        1324
                                                                                                                                              546
                                                                                                                                                                                        526
                                                                                                                                                                                                                                 506
                                                                                                                                                                                                                                                     1024
                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                     426
                                                                                                                                                                                                                                                                                                                                                                                                                                             406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367
                   606
                                                             586
                                                                                                                                                                                                                                                                                               964
                                                                                                                                                                                                                                                                                                                                                                                844
                                                                                                                                                                                                                                                                                                                                                                                                                          787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                307
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AB009072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1385
                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSerAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACCCAGGAGCAAAAGTGACTGTTAACATGCTCTGTGCTGGCCTAGACCGCGGTGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTTTGTGGGAGGAATAGTTTCCTGGGGTTCTATTAACTGTGGGGGGTCAGAACAGTAT 1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protease
AB009072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (21-NOV-1997) Yuichi Endo, Fukushima Medical Colle Dept. of Biochemistry; 1-Hikarigaoka, Fukushima, Fukushima 9 Japan (E-mail:yendo@cc.fmu.ac.jp, Tel:0245-48-2111(ex.2233),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AB009072.1 GI:6407530
MASP2; mannose-binding protein-associated Xenopus laevis adult liver cDNA to mRNA, o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matsushita,M., Nonaka,M. and Fujita,T.
Two lineages of mannose-binding lectin-associated serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Endo, Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis mRNA for m
protease 2, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fax:0245-48-6760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99008558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopodinae; Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AB009072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MASP) in vertebrates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunol. 161 (9),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (sites)
                   748
                   D
                                                                   LTANNAIATION "WTEERLLASLLIMAVAFPCDGTSTELTALEGRISSPGFPKPYSN
DLTMNMAIKVPEGYRIKIYETYYKNLELSYLCEYDYLKLSSKGTEVAHFCGKESTDTEK
APGDSVEYSLDNKMTVFERSDYSNEMEETGFDAFYSAED INECKETPESCHFCHNHL
GGFYCTCRAGFTLHSDKKICQAKCPDAVYKRSSGTITSPDYPDAYPKLFNCKYRILVE
EGLYIILKFLHFNVEFHODVFCPYDKLOLQITAKGKEIALLCGETIFTDIEIRSNEAE
VFFSTDDSGYHTGMKIQYTTKAIFCPDFLITNKGHFTPDQKTYVARDRLSTCDKGFY
LLEDSRYITGWKIQYTTKAIFCPDFLITNKGHFTPDDLGKXTFVTAKEVTLYNSV
VQYECTGPFYYMKDGKGKYRGADLTSEKTTPPVCAFDCGMKKAVARARIVGA
QVASIGEFPMQVYLNVNNEKGGALLLDNWIITAAHVVYSYKDLSTILIKMGFLTTQD
SDYIRSMPEAVFIHEGYKQGSYDNDIALIKLKNKYPLSSVLGICLFPTEKRYHISQN
ORGNINGLYSGMGLTBRNVPSRKLRYVEVNIYDHSTOKLNNOPCTIFSYRMNICAGF
EGDNYGLSSGMATANAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Takahashi, M., Nakao, M., Saiga, H., ta, M., Nonaka, M. and Fujita, T.
                                    KTIQSN"
                                                       ETGGKDSCAGDSGGALAFMDIESKKWFVGGIVSWGVDCGVARQYGVYTKVTNYYDWIQ
                                                                                                                                                                                                                                                                                                                 protease
                                                                                                                                                                                                                                                                                                                                                                                          35.
                                                                                                                                                                                                                                                                            /protein_id="BAA86865.1"
/db_xref="GI:6407531"
                                                                                                                                                                                                                                                                                                                                    /product="mannose-binding protein-associated serine
                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                     /note="MASP2"
                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Xenopus laevis"
/db_xref="taxon:8355"
                                                                                                                                                                                                                                                                                                                                                                                                         /dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="X112"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                   C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4924-4930
                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2282 bp mRNA mannose-binding
                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mesobatrachia; Pipoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rinear VRT 14-NOV-1999 protein-associated serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d serine protease clone:X112.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              College,
hima 960–12,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      686
```

```
õ
          Ş
                            Дb
                                        Qy
                                                          P 64 P
                                                                                                             δ
                                                                                                                                   В
                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                         å
                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                 QΥ
                                                                                                                                                                       밁
                                                                                                                                                                                       Š
                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-874-198-2 (1-686) x AB009072 (1-2282)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores: Pred. No.:
                                                                                                 761
                                                                                                                   244
                                                                                                                                     704
                                                                                                                                                                        644
                                                                                                                                                                                                           584
                                                                                                                                                                                                                            184
                                                                                                                                                                                                                                               524
                                                                                                                                                                                                                                                                164
                                                                                                                                                                                                                                                                                  473
                                                                                                                                                                                                                                                                                                   144
                                                                                                                                                                                                                                                                                                                                      124
                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                        104
                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113
           302
                                                                                262
                                                                                                                                                      224
                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44
                                                                                                                                                                                                                                                                                                                                                                                                           84
                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
                                                                                                                                                                      TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys
                                                                                                                                                                                                        CysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArg
                                                                                                                                                                                                                                                                                         PheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTCTGGCTACCACACTGGATGGAAGATTCAATATACCACAAAAGCAATTCCATGTCCT
                                    GluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysPro
                                                                        ThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAsp
                                                                                               AspPheLeuLysIleGln-----ThrAspArgGluGluHisGlyProPheCysGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                  LysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLys 103
                                                                                                                                                                                                                                                                                                                                                                                                                           ACCATGAACTGGAATATAAAAGTCCCTGAAGGATATCGTATCAAAATCTACTTTACATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyProLysTrpProGlu---
                                                              ACAATACCTACAGACATAGAAATCCGCAGTAATGAAGCTGAAGTGTTTTTCAGTACAGAT
                                                                                                                                   ATTCTGAAGTTTCTACAC---TTCAATGTGGAATTTCATCAGGATGTTCCATGTCCTTAC
                                                                                                                                              GAAACCCCA-----GAATCCTGTGATCATTTCTGTCACAATCACCTTGGTGGATTT
                                                                                                                                                                                                                                                                                                                                                                                         ACTGAAGTGGCACATTTCTGTGGTAAAGAGAGCACTGATACAGAGAAAGCCCCCTGGAGAC 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGCTTCTCTGTTGATTTGGGCTGTTGCATTCCCCCTGTGATGGCACTTCAACTGAACTA 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.34e-135
1815.50
185.368
49.718
48.318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                    143
                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                             83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                820
                                                                                                                                    760
                                                                                                                                                     243
                                                                                                                                                                                        223
                                                                                                                                                                                                                          203
                                                                                                                                                                                                                                                                                                 163
                                                                                                                                                                                                                                                                                                                    472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172
          321
                           940
                                            301
                                                              880
                                                                              281
                                                                                                                 261
                                                                                                                                                                       703
                                                                                                                                                                                                         643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24
```

2059	TCCTGGGGAGTGGATTGTGGAGGTTGCAAGGCAATATGGTGTATACACAAAAGTAACA	2003	Db CY	
3		n N	2	
653 2002	GlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyIleVal.	634 1943	Оу	
633 1942		615 1883	Qy Db	
1882	GCACATGCAAACTGAATATGCAACCTAGGTGCACAATATTTAGTTAC	1835	Db	
614		596	νo	
1834	ACTGACAGAAATGTCCCCTTCACGCAAATTAAGGTTTGTTGAAGTGAATATTGTTGATCAT  ACTGACAGAAATGTCCCCTTCACGCAAATTAAGGTTTGTTGAAGTGAATATTGTTGATCAT	1775	Db vy	
n -		763	> 5	
575	SerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeu ( :::	560	D Oy	
1714	GACAAAGTGCCTCTCAGTGAAAGCGTTCTTGGCATATGTCTTCCTACAAGAGAAAGCGT	1655	Db	
559		540	Qγ	
1654		1598	Db	
539	HisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsn :	520	Оу	
1597	GATTCCTGACAACGCAGGACAGTGATTATATAAGGAGCTGGCCAGAAGCAGTTTTTATC	1538	Db	
519	lyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIle	500	Qy	
Ġ		1481	дb	
499		480	Qy	
1480	TATTTAAACGTCAATAATGAGAAGGGAGGAGGAGGACTACTACTGGACACTGGATTTTA	1421	Db	
479		461	Оу	
1420	GCTCGCGCACGTATAGTTGGAGCCCAAGTCGCAAGCATTGGGGAATTCCCATGGCAAGTG	1361	Db	
460		441	Qy	
1360	GAATCTGAGAAGACAACACCTCCAGTCTGTGCACCTGATTGTGGAATGAAGAAGCAGTA	1301	Db	
440		422	Qy	
1300	TACATGAAAGACGGGAAAGGAAAGTACAGGTGTGGAGCTGATGGGTTCTGGGGAGATATT 1	1241	Db	
421	ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 4	402	Qy	
1240	GCAAAAGAAGTGACTTTATACAATTCAGTTGTGCAGTATGAATGCACAGGACCTTTTTAT	1181	Db	
401	GlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyr 4	382	Qy	
1180	ATAATTGTTAACTGTGGTAACCCTGATGACATAGACATGGAAATATACCTTTGTGACA	1121	Db	
381		362	Qy	
1120	CCCTCATTCACAATGACCTGTCAGCCCAATGGAACATGGGACAAAAAGCTGCCAAAGTGC	1061	Db	
361		342	Qy	
1060	GACCGTCTATCTCTTACTTGTGACAAGGGATTTGTACTTCTGGAGGATTCAAGAACAATA 1	1001	Db	
341	roLeu	322	Qy	
1000	GACCCTATACTGACAAATAAAGGTCATTTTACTCCACAACAGAAAACATATGTGGCAAGG 1	941	ДĎ	

```
Best Local :
Query Match
DB:
                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                          Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
RNO18571
                        DЬ
                                               δÃ
 20
                                                                       US-09-874-198-2
                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Snoor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLE
                                                                                                                                                                                                                               3'UTR
                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                     polyA_signal
                                                                                                                                                          No.:
  340
                                                 320
                      Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RNO18571
Rattus No
Y18571
Y18571.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Stover, C.M.
Direct Submission
Submitted (23-DEC-1998) C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Immuno
20054576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stover, C.M., Thiel, S., Lynch, N.J. and Schwaeble, W.J.
The rat and mouse homologues of MASP-2 and MAp19, components of
lectth activation pathway of complement
J. Immunol. 163 (12), 6848-6859 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MASP-2 gene; MASP-:
Rattus norvegicus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Leicester LE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10586086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 1112)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 1112)
                                                                       (1-686)
                                                                                                                                                                                                       304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunology, University ester LE1 9 HN, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .1 GI:6689098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Norvegicus
                                                                                                                                                                                                     /gene="MASP-2"
1103. .1112
/gene="MASP-2"
a 257 c 278
                                                                                                                                                                                                                                                  /translation "ikrsfsvecktgefellogsvplksftavcokdgswdrpipecsi
idcgppddlpnghvdyttgpbrytkavioyscefteytmsskxyvceadgewtssk
gekslpvckpvcglsthtsggriiggopakpgdepwoulllgettaagalihddwult
aahavygkteamssldirmgilkrisllyyoampeavethecythgaefddlarhik
kakvytinrnimpiclprkeaaslmktdpvgtvagwgltokgflarnlmfvdipivdho
kcataytkopypgakvtnwnlcagldrggkggggalvfldnetorwfvggivs
wgsincggsboygvytkvtnyipwieniinnf"
                                                                                                                                                                                                                                                                                                                                               /product="MASP-2 protein"
/protein_id="CAB65388.1"
/db_xref="GI:6689099"
                                                                                                                                                                                                                                                                                                                                                                                                                                                         /strain="Fisher 344"
/db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Rattus norvegicus"
/strain="Fisher 344"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=2
                                                                                                                                                                                                                                                                                                                                                                                                /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="prl-9"
                                                                      x RNO18571
                                                                                              3.52e-121
1634.50
88.56%
80.93%
43.49%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                            .1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein.
                                                                                                                                                                                                       278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1112 bp
for MASP-2
                                                                      (1-1112)
                                                                                                                                                                                                       Q
                                                                                              Gaps:
                                                                                                                                             Length: Matches:
                                                                                                                     Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of Leices
                                                                                                          Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tover, Department
Leicester, Unive
                                                                                                                                                                                                       273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA
                                                                                            1112
297
28
41
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ctment of Microbiology University Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      partial,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ROD 26-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prl-9.
                        61
 RESULT 13
                                                         Q
                                                                                 рЬ
                                                                                                        Qy
                                                                                                                                Вb
                                                                                                                                                     ρy
                                                                                                                                                                                Вр
                                                                                                                                                                                                     Q
                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                   1019
                                                                                                                                  959
                                                                                                                                                        640
                                                                                                                                                                                899
                                                                                                                                                                                                       620
                                                                                                                                                                                                                             839
                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                           779
                                                                                                                                                                                                                                                                                                  580
                                                                                                                                                                                                                                                                                                                         719
                                                                                                                                                                                                                                                                                                                                               560
                                                                                                                                                                                                                                                                                                                                                                       659
                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                      599
                                                                                                                                                                                                                                                                                                                                                                                                                                            520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluAsnIleIleSerAspPhe
                                                                                              CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                             GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                       AlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                        AsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                 HisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGTGCAGCATTATTGACTGTGGCCCTCCCGATGACCTACCCAATGGCCACGTGGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGACAATGAAACACAGAGATGGTTTGTGGGAGGAATAGTTTCCTGGGGGTTCTATTAAC
                                                                                                                                                                                GGCCTAGACCGCGGTGGCAAGGACAGCTGCAGAGGTGACAGCGGAGGGGCATTAGTGTTT
                                                                                                                                                                                                                             ACTGCGTATACAAAGCAGCCCTACCCAGGAGCAAAAGTGACTGTTAACATGCTCTGTGCT
                                                                                                                                                                                                                                                                          TTTCTTGCTAGAAACCTAATGTTTGTGGACATACCAATTGTTGACCACCAAAAATGTGCT
                                                                                                                                                                                                                                                                                      PheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThr
                                                                                                                                                                                                                                                                                                                                                                                                                      CATGAAGGCTACACTCACGGAGCTGGTTTTGACAATGATATAGCACTGATTAAACTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCATCCTCAAAAGGCTCTCCCTCATTTACACTCAAGCCTGGCCAGAGGCTGTCTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAGCGGCTCATGCTGTATATGGGAAAACAGAGGCGATGTCCTCCCTGGACATCCGCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTACACAATGAGCAGCAAT---GGTAAATATGTGTGTGAGGCTGATGGATTCTGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                 TGTGGGGGGTCAGAACAGTATGGGGTCTACACGAAAGTCACGAACTATATTCCCTGGATT
                                                                                                                                                                                                                                                                                                                                                                       AACAAAGTCACAATCAACAGAAACATCATGCCGATTTGTCTACCAAGAAAAAGAAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCACAGGCCCTGAAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACT
                                                           686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     459
                                                                                   1078
                                                                                                         679
                                                                                                                                  1018
                                                                                                                                                                                                                            898
                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                           838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 419
                                                                                                                                                                                                       639
                                                                                                                                                                                                                                                                                                  599
                                                                                                                                                                                                                                                                                                                         778
                                                                                                                                                                                                                                                                                                                                               579
                                                                                                                                                                                                                                                                                                                                                                                             559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                958
                                                                                                                                                                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
ORGANISM
                                                                  DЬ
                                                                                     Q
                         망
                                            Š
                                                                                                             В
                                                                                                                                Š
  Ş
                                                                                                                                                        US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E
NAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5'UTR
                                                                                                                                                                                                                                               ment Scores
                                                                                                                                                                                                                                                                                                  sig_peptide
                                                                                                                                                                                                                                     ₹
::
                                                                                                                                                                                                                                                                               TOUNT
                         183
                                                                   123
    62
                                             42
                                                                                                             63
                                                                                        22
                                                                                                                                   Ŋ
                                                                 ArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyProLys
                                                                                                          CAGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCAAAG
ThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSer
                                  AspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae
1 (bases 1 to 1145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 1145)
Schwaeble,W.J.
Direct Submission
Submitted (13-JUL-1999) W.J. Schwaeble, Der
University of Leicester, University Road,,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stover, C.M., Thiel, S., Lynch, N.J. and Schwaeble, W.J. The rat and mouse homologues of MASP-2 and MApl9, collectin activation pathway of complement J. Immunol. 163 (12), 6848-6859 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Y19163.1 GI:6688732 mannose binding lectin-associated Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  יייט musculus partial mRNA for mannose binding lectin-associated serine protease-2 (MASP-2 gene).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10586086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20054576
                                                                                                                                                        (1-686)
                                                                                                                                                                                                                                                                               256
                                                                                                                                                                                                                                                                                                    HKVTITFATDESGNHTGWKIHYTSTARPCPDPTAPPNGSISPVQAIYVLKDREYVFCK
TGFELLQGSVPLKSFTAVCQKDGSWDRPMPECS"
45. .104
                                                                                                                                                                                                                                                                                                                                /protein_id="CAB65250.1"
/db_xref="G1:6680733"
/translation="MSLDCPQLIFLGLLMSLVATLLGSKWPEDVFGRLVSPGFPEKY
ADHQDRSWTLTAPPGYRLRLYFTHFDLELSYRCEYDFVKLSSGTKVLATLCGQESTDT
EQAPGNOTFYSLGPSLKVTFHSDYSNEKPFTGFEAFYAAEDVDECRVSLGDSVPCDHY
CHNYLGGYYCSCRAGYVLHQNKHTCSALCSGQVFTGKSGYLSSPEYPQPYPKLSSCTY
SIRLEDGFSVILDFVESFDVETHPEAQCPYDSLKIQTDKGEHGPFCGKTLPPRIETDS
                                                                                                                                                                                                                                                                                                                                                                                                             /product="mannose
protease-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="MASP-2"
45. .>1145
                                                                                                                                                                                                                                                                                       /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Mus musculus"
/strain="B6CBAF1/J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            db_xref="taxon:10090"
                                                                                                                                                        x MMU19163
                                                                                                                                                                            1.74e-120
1626.00
88.92%
80.89%
43.27%
                                                                                                                                                                                                                                                                              345
                                                                                                                                                                                                                                                                              O
                                                                                                                                                                                                                                                                             288
                                                                                                                                                       (1-1145)
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                       binding
                                                                                                                                                                                                                                                                              256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              serine
                                                                                                                                                                                                                                                                              H
                                                                                                                                                                                                                                                                                                                                                                                                                       lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Department of Immunology,
d,, Leicester LE1 9HN, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protease-2;
                                                                                                                                                                           1145
292
29
40
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  components of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ROD 16-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MASP-2
                      242
                                                                  182
                                                                                       41
  82
                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus
                     KEYWORDS
SOURCE
                                                                                     RESULT 14
AF284421
                                                     DEFINITION ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                          S
                                                                                                                                                                 밁
                                                                                                                                                                                   γ
                                                                                                                                                                                                           В
                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                       밁
                                            VERSION
                                                                            LOCUS
            ORGANISM
                                                                                                                       1143
                                                                                                                                                                 1083
                                                                                                                                                                                                           1023
                                                                                                                                           362
                                                                                                                                                                                       342
                                                                                                                                                                                                                                                                                                  903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                 322
                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                             843
                                                                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                                                                                                                                                                                                                                                                                                723
                                                                                                                                                                                                                                                                                                                       282
                                                                                                                                                                                                                                                                                                                                                                 262
                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                      222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82
                                                                                                                       AGC 1145
                                                                                                                                          Ser 362
          Homo sapiens.
                                                     Homo sapiens
AF284421
                                           AF284421.1
                                                                           AF284421
```

```
GluSerGlyAspHisThrGlyTrpLySIleHisTyrThrSerThrAlaGlnProCysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAGGTTTTATGTCTTCTGCAAGACAGGCTTCGAGCTTCTGCAAGGTTCTGTCCCCCTG
                                                                                                                                                                                                                                                                                                                                                          AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu 341
                                                                                                                                                                                                                                                                                                                                                                                                              GATCCAACGGCGCCACCTAATGGCAGCATTTCACCTGTGCAAGCCATATATGTCCTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                   TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTTTGTTCAGGCCAGGTGTTCACAGGAAAATCTGGGTATCTCAGTAGCCCTGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCTACTATTGCTCCTGCAGAGCGGGCTACGTTCTCCACCAGAACAAGCACGCGTGCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCAATGACACCTTCTACTCACTGGGTCCCCAGCCTAAAGGTCACCTTCCACTCCGACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGTCGGGGAACCACACGGCTGGAAGATACACTACAAGCACAGCACGGCCCTGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCTATGACTCCCTCAAGATTCAAACAGACAAGGGGGAACACGGCCCCATTTTGTGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGTCATCCTGGACTTCGTGGAGTCCTTCGATGTGGAGACGCACCCTGAAGCCCAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCTGCCTCCCAGGATTGAAACTGACAGCCACAAGGTGACCATCACCTTTGCCACTGAC
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                                       GI:15088516
                                                                                                      complement
                                                                                                        factor
                                                                                                                         dq
                                                                                                 MASP-3 mRNA,
                                                                                                     complete
Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                           1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              542
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                     Qy
                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE
                                                                               Qy
                                                                                                                     DЬ
                                                                                                                                                                                           В
                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                               Qy
              δõ
                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match:
                100
                                                 331
                                                                                                                                                                                                                                                               151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DS
                                                                                                                         271
                                                                                                                                                                                             211
                                                                                                                                                                                                                                                                                                                                                                                                        874-198-2 (1-686) x AF284421 (1-3895)
                                                                                    80
                                                                                                                                                        60
                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                     91
                                                                                                                                                                                                                                                                                                                                                                     \vdash
                                                                                                                     AlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSer
                                                 GAAACTGAGGACCAGGTGCTGGCAACCTTCTGTGGCAGGGAGACCACAGACACAGAGCAG
                                                                SerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArg
                                                                                                                                                                                             CCCAGTGATTCAGAGGTGACTTGGAATATCACTGTCCCAGATGGGTTTCGGATCAAGCTT
                                                                                                                                                                                                                                                                 ACCGTGGAGCTAAACAATATGTTTGGCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
                                                                                                                                                                                                                                                                                                 LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr
                                                                                                                                                                                                                                                                                                                                     ATGAGGTGGCTTCTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCTTCAGCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria; Primates; Catarrhini; Hominidae; H 1 (bases 1 to 3895)
Dahl, M.R., Thiel, S., Matsushita, M., Fujita, T., Willis, Dahl, M.R., Vorup-Jensen, T. and Jensenius, J.C. Christensen, T., Vorup-Jensen, T. and Jensenius, J.C. Christensen, T., Vorup-Jensen with distinct complexes of mannan-binding lectin complement activation pathway Immunity 15 (1), 127-135 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 (bases 1 to Dahl, M.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission Submitted (03-JUL-2000) Immunology, Aarhus University, Aarhus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1485744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /translation="mawllivyalcfslskasahtvelnumfqqtqspqpdsypsds
/translation="mawllivyalcfslskasahtvelnumfqqtqspqpdsypsds
EVTWMITVPDGFRIKLYFMHFMLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTP
GQEVVLSPGSFMSITFRSDFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNY
IGGYYCSCRFQYILHTDNRTCRVECSDNLFTQRFGVITSPDFPNPYPKSSBCLYTTEL
EEGFMVNLQFEDIFDIEDHPEVPCPYDYIKIKVGPKVLGPFCGEKAPEPISTQSHSVL
ILFHSDNSGENRGWRLSYRAAGNECPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYK
VLKDNVEMDTFQIECLKDGTWSNKIPTGKIVDCRAPGELEHGLITFSTRNNLTTYKSE
IKYSCQEPYYKMLNNNTGIYTCSAQGVMNNKVLGRSLPTCLPECQPSRSLPSLVKRI
IGGRNAEPGLEPWQALIVVEDTSRVPNDKWFGSGALLSASWIIJTAAHVLASQRRDTTV
IPVSKEHVTVVIGLHDVRDKSGANVSSAARVVLHPDFRIGNYNHDIALVQLQEPVPLG
PHVMPUCLPRLEPEGPAPHMLGLVAGWGISNPHVTVDEIISSGTRFLSDVLQVKLPV
VPHAECKTSYESRSGNYSVTENMFCAGYYEGGKDTCLGDSGGAFVIFDDLSQRWVVQG
LVSWGGPEECGSKQVYGYTKVSNYUMVWEQMGLPQSVVEPQVER"

1888 4
20 1665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /map="3q27-28"
91. .2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="complement factor MASP-3"
/protein_id="AAK84071.1"
/db_xref="GI:15088517"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /chromosome=":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                            1.96e-118
1609.00
60.36%
43.00%
42.82%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .3895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                            3895
307
124
245
38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Willis, A.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
                                                                                  99
                                                                                                                       330
                                                                                                                                                        79
                                                                                                                                                                                                                            59
                                                                                                                                                                                                                                                                                                    39
                                                                                                                                                                                                                                                                 210
                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8000
                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
밁
                                                                                                   Qy
                                                                                                                                        밁
                                                                                                                                                                         δõ
                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                             δÃ
1471
                                                                                                                                                                                                              1291
                                                                                                                                                                                                                                                                                                                                                          1171
                                                                                                                                                                                                                                                                                                                                                                                                                            1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1051
                                 456
                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                               340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheProTrpGlnValLeuIleLeuGlyGlyThrThrAla-----
                                                                                                                                                                                                                                  PheTyrThrMet---LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp 418
                                                                                                                                                                                                                                                                                                                                                      ACCTGTAAAATTGTAGACTGTAGAGCCCCAGGAGAGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                          AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                          GAGATGGACACATTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                              ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCAAAGACCAAGTGCTCGTCAGCTGTGACACACAGGCTACAAGTGCTGAAGGATAATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGAGAGAAAGCCCCAGAACCCATCAGCACCCAGAGCCACAGTGTCCTGATCCTGTTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTGCCCCTATGACTACATCAAGATCAAAGTTGGTCCAAAAGTTTTGGGGGCCTTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTGAGGACCATCCTGAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACGAGTGCAAGGAGGAGGACGAGGAGCTGTCCTGTGACCACTACTGCCACAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATTTCTCCAATGAGGAGCGTTTCACAGGCTTTGATGCCCACTACATGGCTGTGGATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIle
TTCCCGTGGCAGGCCCTGATAGTGGTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGG
                                                                  CGCTCCCTGCCAAGCCTGGTCAAGAGGATCATTGGGGGCCGAAATGCTGAGCCTGGCCTC
                                                                                                                                        ATGAATAAAGTATTGGGGAAGAGCCTACCCACCTGCCTTCCAGAGTGTGGTCAGCCCTCC
                                                                                                                                                        ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAla :::
                                                                                                                                                                                                            TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGAGTCTGG
                                                                                                                                                                                                                                                                                    TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC
                                                                                                                                                                                                                                                                                                      LeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCCAGAGCTACAGCCTCCTGTCCATGGGAAAATCGAGCCCTCCCAAGCCAAGTATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGACAACTCGGGAGAACCCGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {\tt CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCCCGGCCAGGAGGTGGTCCTCCCCTGGCTCCTTCATGTCCATCACTTTCCGGTCA
```

399 1230

1530

455 1410 1170

359

379

1110

339

1050

319 990 299 279

870 259 810 690 199 630

219

239

ó 밁 ò DЬ Qy 밁 Š В S

```
DEFINITION ACCESSION
     BASE COUNT
                                                                                         FEATURES
                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                         LOCUS
                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                         XZ54423
                                                                                                                        JOURNAL
                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2005
                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                          2182 TATGGAGTCTACACAAAGGTCTCCAATTACGTGGACTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1885 AATGTGACAGTGGATGAGATCATCAGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                        666 TyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  559 GluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              768 CAGGAGCCTGTGCCCCTGGGACCCCACGTTATGCCTGTCTGCCCAAGGCTTGAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TATGTCAAGTTACCCGTGGTGCCTCACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyPhe-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr:::||||||||||||||| :::
TTTGGGAGTGGGGCCCTGCTCTGCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGGC---CCGGCCCCCCACATGCTGGGCCTGGTGGCCGGCTGGGGCATCTCCAATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCCACCCAGACTTC---AACATCCAAAACTACAACCACGATATAGCTCTGGTGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCTTGCATGATGTGCGAGACAAATCGGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCCAGCGTAGAGACACCACGGTGATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluGlnLysHisAspAlaSerAlaLeuAspIle---ArgMetGlyThrLeuLysArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---GGCAATTACAGCGTCACGGAGAACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnAsnLysValVallleAsnSerAsnIleThrProIleCysLeuProArgLysGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerProHisTyrThrGlnAlaTrpSerGluAla------ValPhe
                                                                                                                                                                                                                                                                                                                        Sequence
AX254423
                                                                                                   Yue,H., Lu,D.A., Policky,J.L., Delegeane,A.M., Tribouley,C.M., Khan,F.A., Au'Young,J., Bandman,O., Lal,P., Borowsky,M.L., Gandhi,A.R., Hillman,J.L., Tang,Y.T., Burford,N., Baughn,M.R., Nguyen,D.B., Yao,M.G., Walia,N.K., He,A., Lu,Y. and Patterson, Patent: WO 0171004-A 12 27-SEP-2001; Incyte Genomics, Inc. (US)
                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 3863)
                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                          AX254423.1 GI:16074167
                                                                                                                                                                                                                                                                                                                                                         AX254423
     923
     a
                                                                                                                                                                                                                                                                                                                                        12
 /organism="Homo sapiens"
/db_xref="taxon:9666"
/note="Incyte ID No: 3741323CB1"
1063 c 991 g 886 t
                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                        from
                                                                       . 3863
                                                                                                                                                                                                                                                                                                                                        Patent
                                                                                                                                                                                                                                                                                                                                      3863 bp
WO0171004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----LeuAlaArgAsnLeuMet
                                                                                                                                                                                                                                                                                                                                                         DNA
                                                                                                                                                                                                                                                                                                                                                                                                                          2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                    Baughn, M.R.,
nd Patterson, C
                                                                                                                                                                                                                                                                                                                                                       PAT 10-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
 δÃ
                                                              Q
                                                                                                   В
                                                                                                                               δÃ
                                                                                                                                                                  В
                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                             νQ
                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-874-198-2 (1-686) x AX254423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           446
                                                                                                                                                                                                   240
                                                                                                                                                                                                                                   746 GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTGAGGACCATCCTGAGGTG
                                                                                                                                                                                                                                                                                                     989
                                                                                                                                                                                                                                                                                                                                                                     626
                                                                                                                                                                                                                                                                                                                                                                                                                                        566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146
 300
                                                                                                   866
                                                                                                                                    260
                                                                                                                                                                    806
                                                                                                                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86 ATGAGGTGGCTGCTTCTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCTTCAGCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                   GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGTGATTCAGAGGTGACTTGGAATATCACTGTCCCAGATGGGTTTCGGATCAAGCTT
                                                                                                                                                                  CCCTGCCCCTATGACTACATCAAGATCAAAGTTGGTCCAAAAGTTTTGGGGCCCTTTCTGT
                                                                                                                                                                                   LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                              GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                     CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                ThraspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro
                                                                                                                    GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                                                                                                                                                                                                                                                                                 GluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACGAGTGCAAGGAGGAGGAGGACGAGGAGCTGTCCTGTGACCACTACTGCCACAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr
                                 AGTGACAACTCGGGAGAACCGGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                                                                                   GGAGAGAAAGCCCCAGAACCCATCAGCACCCCAGAGCCACAGTGTCCTGATCCTGTTCCAT
                                                                                                                                                                                                                                                                                                                                                                     TGCCGAGTGGAGTGACAACCTCTTCACTCAAAGGACTGGGGTGATCACCAGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTGGCGGCTACTACTGCTCCTGCCGCTTCGGCTACATCCTCCACACAGACAACAGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTCCCGGCCAGGAGGTGGTCCTCTCCCCTGGCTCCTTCATGTCCATCACTTTCCGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCGTGGAGCTAAACAATATGTTTGGCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.33e-118
1608.00
60.36%
43.00%
42.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1-3863)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3863
307
124
245
38
```

445

119 385 99 325 79 59

39

20

299 925 279 865 259 805 239 745 219 583 199 625 179 565 159 505 139

Š В Š В δ 밁 Ş 밁 õ 밁 õ 밁

```
1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1346 ATGAATAAAGTATTGGGGAGAAGCCTACCCACCTGCCTTCCAGAGTGTGGTCAGCCCTCC
                                                                                                                                                                                                                                                                                                                                             1880 AATGTGACAGTGGATGAGATCATCAGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      559 GluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeu
::::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTTGCATGATGTGCGAGACAAATCGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTG 1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC
AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                                                                         ---GGCAATTACAGCGTCACGGAGAACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAA
                                                                                                                            TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys 626
                                                                                                                                                                                                                                                                             TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGGC----CCGGCCCCCCACATGCTGGGCCTGGTGGCCGGCTGGGGCATCTCCAATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCCACCCAGACTTC - - - AACATCCAAAACTACAACCACGATATAGCTCTGGTGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCCAGCGTAGAGACACCACGGTGATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluGlnLysHisAspAlaSerAlaLeuAspIle---ArgMetGlyThrLeuLysArgLeu
|||| ::: ||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTGGGAGTGGGGCCCTGCTCTCTGCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgThrThrGlyGly------ArgIleTyrGlyGlpGlnLysAlaLysProGlyAsp
|||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGAGTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PheTyrThrMet----LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTGTAAAATTGTAGACTGTAGAGCCCCCAGGAGAGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCAAAGACCAAGTGCTCGTCAGCTGTGACACAGGCTACAAAGTGCTGAAGGATAATGTG
                                                                                                                                                                                                                   TATGTCAAGTTACCCGTGGTGCCTCACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheProTrpGlnValLeuIleLeuGlyGlyThrThrAla---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCTCCCTGCCAAGTCTGGTCAAGAGGATCATTGGGGGGCCGAAATGCTGAGCCCGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGATGGACACATTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCCCAGAGCTACAGCCTCCTGTCCATGGGAAAATCGAGCCCTCCCAAGCCAAGTATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerProHisTyrThrGlnAlaTrpSerGluAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCCGTGGCAGGCCCTGATAGTGGTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                      LeuAlaArgAsnLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1045
                                                                                                                                                                                                                   1999
                                                                                                                                                                                                                                                                                                                                             1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1105
                                646
                                                                                                                                                                                                                                                                                909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           359
```

 Db

 Qy

 Db

 Db

 Db

 Db

 Db

 Db

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB049755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2177
                                                                                                                                              3'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TrpPheValGlyGlyIleValSerTrpGlySer---MetAsnCysGlyGluAlaGlyGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACACGTGCCTTGGAGATAGCGGTGGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATGGAGTCTACACAAAGGTCTCCAATTACGTGGGCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (10-OCT-2000) Minoru Takahashi, Fukushima Medica University School of Medicine, Department of Biochemistry; Hikarigaoka, Fukushima, Fukushima 960-1295, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Takahashi,M., Miura,S., Ishii,N., Sugamura,K., Shiro,S., Endo,Y., Matsushita,M. and Fujita,T. An essecial role of MBL-associated serine prote activation of complement by lectin pathway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complete
AB049755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 3736)
Takahashi,M., Yazawa,T., Sato,Y., Kanno,K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (E-mail:minolta@fmu.ac.jp, Tel:81-24-548-2111(ex.2232), Fax:81-24-548-6760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB049755.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AB049755
                                                             974
                                                       /gene="masp3"
3718. .3723
/gene="masp3"
a 1010 c 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cds
                                                                                                                                                                                TYKSEIRYSCQQPYYKMLHNTTGVYTCSAHGTWTNEVLKRSLPTCLPVCGOPSRALPN
LVKRIIGGRNAELGLFWQALIYVEDTSRVPNIDKWFSCALLSESWILTAAHVLKSQR
RDNTYIPVSKEHVTYYLGLHDVDKSGAVNSSAARVILHPDFNIQNYNHDIALVQQLK
PVPLGAHVMPICLPRPEEGPAPHMLGLVAGWGISNPNVTVDEIILSGTRTLSDVLQY
VKLPVSHAECKASYESRSGNYSVTENMFCAGYYEGGKDTCLGDSGGAFVIFDEMSQH
                                                                                                                                                                                                                                                                                 /product="MBL-associated serine protease-3"
/protein_id="BAB69688 1"
/protein_id="BAB69688 1"
/db_xref="GI:16040962"
/translation="MBLESFWRLLLYHALCLALPEVSAHTVELNEMFGQIQSPGYPDS
/reanslation="MBLESFWRLLLYHALCLALPEVSAHTVELNEMFGQIQSPGYPDS
YPSDSEVTWNITVPEGFRIKLYFMHFNLESSYLCEYDYVKVETEDQVLATFCGRETTD
TEQTPQQEVVLSPGTFMSVTFRSDFSMEERFTGFDAHYMAVDVECKEREDEELSCDH
YCHNYIGGYYCSCRFGYILHTDNRTCRVECSGNLFTQRTGTITSPDYPMYPKSSECS
YTIDLEEGFMVSLQFEDIFDIEDHPEVPCPVDYIKIKAGSKYWGPFCGEKSPEPISTQ
THSVQILFRSDNSGENRGWRLSYRAAGNECPKLQPPVYGKIEPSQAVYSFKDQVLVSC
DTGYKYLKDNGVMDFFQIECLKDGAMSNKIPTCKIUDCGAPAGLKHGLVTFSTRNNIT
                                                                                                                                                                 WVAQGLVSWGGPEECGSKQVYGVYTKVSNYVDWLWEEMNSPRAVRDLQVER"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="masp3"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="BALB/c"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene≕"masp3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene="masp3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="liver"
l. .3736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GI:16040961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (strain:BALB/c)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    masp3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MBL-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  liver cDNA to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata;
Sciurognathi; Muridae
                                                             843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protease-1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fujita,T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shuichi, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protease-3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ROD 11-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
             망
                               δÃ
                                                                   οy
                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                 Ъ
                                                                                                          Qy
                                                                                                                              DЬ
                                                                                                                                                   Q
                                                                                                                                                                          Дb
                                                                                                                                                                                         οy
                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x AB049755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NO . .
                                                                                            927
                                                                                                                                                                                                                                                                                                                                                                                                                     447
                                                                                                                                    867
                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                               507
                                                                                                                                                                                                                                                                                                                                                                                                                                                             387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        147 ATGTTTGGTCAGATCCAGTCACCTGGCTATCCAGATTCCTATCCAAGTGACTCTGAGGTG
                                                                                                                                                                                                                 747
                                                                                                                                                                                                                                                        687
                                                                                                                                                                                                                                                                            206
                                                                                                                                                                                                                                                                                                                   186
                                                                                                                                                                                                                                                                                                                                       567
                                                                                                                                                                                                                                                                                                                                                           166
                                                                                                                                                                                                                                                                                                                                                                                                  146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46
                         IlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPheThr 345
::: |||:::|||||||||
                                                              ProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPheSer
                                                                                                                                                                                                              ACATGGAATATTACTGTCCCGGAGGGGTTTCGAATCAAGCTTTACTTCATGCACTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArg ::::||||||::::|| ||| |||
                                                                                                      HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                 CAATCAGCACCCAGACTCACACTGTCCAGATCCTATTCCGCAGCGACAACTCAGGAGAG
                                                                                                                                                                       ProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAla 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLys 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysVal 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAsp
             GTCAGCTGTGACACAGGCTACAAAGTGCTAAAGGATAACGGGGGTGATGGACACATTCCAA 1106
                                                  CCTGTGTACGGGAAAATCGAGCCCTCGCAGGCCGTGTATTCCTTCAAAGACCAAGTGCTC
                                                                                          AACCGAGGCTGGAGGCTCTCCTACAGAGCGGCAGGAAATGAGTGCCCAAAGCTACAGCCT
                                                                                                                                             ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                                                                                                                                                                                                       CCCAAGAGCTCAGAATGTTCCTATACCATTGACCTGGAGGAAGGCTTCATGGTCAGCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTCTTTCGCCTGGCACCTTCATGTCTGTCACTTTCCGGTCAGATTTCTCCAATGAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGAATCCTCCTATCTTTGTGAATACGACTATGTGAAGGTAGAAACAGAAGACCAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.1e-118
1603.50
61.97%
44.27%
42.67%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-3736)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3736
305
122
224
29
                                                   1046
                                                                                          986
                                                                                                                                                                                                                                                                                                                                                                                                                                                           446
                                                                                                             305
                                                                                                                                                                         866
                                                                                                                                                                                            265
                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                          225
                                                                                                                                                                                                                                                                                               686
                                                                                                                                                                                                                                                                                                                 205
                                                                                                                                                                                                                                                                                                                                                                                                                    506
                                                                                                                                  926
                                                                                                                                                                                                                806
                                                                                                                                                                                                                                                      746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326
QΥ
```

	sValIleAsnTyrIleProTrpIle 679	671	Qy
2176	GTGTCCTGGGGAGGACCTGAAGAATGTGGTAGCAAGCAAG	2117	Дb
671	ValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLy	652	Qy
2116	TAGCGGTGGGGCCTTCGTCATCTTTGATGAGATGAGCCAGCACTGGGTAGCCCAAGGCCT	2057	Db
652	SerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyI	632	Qy
2056	ITTIALAKSNMETLEUTYSALIGLTYLEUGTUSETGIYGIYLYSASPSETCYSAIGGIYAS 	1997	Db Vy
ع ز	GTGTCACATGCTGAATGCAAAGCCCAGCTATGAGTCTCGGTCGGGCAACTACAGTG	عبد	2 5
2	ProTyrProArgGlySerV 	592	, S
1939	CGAACCTTATCAGATGTCCTACAGTATGTCAAATTACCC	1880	Дb
592		581	Qy
1879	TCACATGTTGGGACTGGCTGGCTGGGGGCATCTCCAATCCTAATGTGACAGTGGACGA	1820	Дb
580	IleGlyThrAlaSerGlyTrpGlyLeuTh	564	Оу
1819	GGGGGCCCATGTCATGCCCATCTGTCTACCAAGACCTGAGCCTGAAGGTCCAGCCCC	1763	Дb
564	AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaC	544	Qy
1762	- AACATCCAGAACTACAACCATGACATCGCTCTGGTACAGCTACAGAAGCCTGTGCCCTT	1704	Db
544	isAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValVal	524	Qy
1703	ATAGCTCTGCTGCCCGAGTGATACTCCATCCAGACTTT	1646	Дb
524	AlaTrpSerGluAla	511	Оу
1645	GTCACCGTCTATCT	1587	Дb
511	rAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerPro-HisTyrThrG	493	Оу
1586	CTCTCTGAGTCCTGGATACTCACAGCAGCCCATGTTCTGCGTTCCCAGCGCAGAGACAAC	1527	Db
492	rAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAs	473	Qy
1526	AGTGGTGGAAGACACATCGAGGGTACCAAACGACAAGTGGTTCGG	1467	DЬ
472	uGlyGlyThrThrAlaAlaGlyAlaLeu	462	Оу
1466	AGAATCATCGGAGGTCGCAATGCTGAGCTTGGCCTCTTCCCATGGCAGGCCCT	1407	Db
461	3lyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeu	444	Qy
1406	AGAAGCCTGCCCACCTGCCTTCCAGTGTGTGGACAGCCCTCCCGCGCCCTGCCAAACCTG	1347	Дb
443	sSerLeuProValCysGluProValCysGly	425	Qy
1346	AATACCACAGGTGTATATACGTGTTCTGCTCATGGGACCTGGACGAACGA	1287	Db
424	.snAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGly	406	Qy
1286	ACCACATACAAATCTGAGATAAGGTACTCCTGCCAACAGCCCTATTACAAGATGCTTCAC	1227	Db
405	rThrTyrLysAlaVallleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal	386	Qy
1226	GGCTGAAACATGGGCTAGTAACCTTCTCCACCAGAAACAACCTC	1167	Db
385	sGlyProProAspAspLeuProSerGlyArgValGluTyrTleThrGlyProGlyVal	366	Qy
1166		1107	Дb
365	GlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAsp	346	Qy

159 570

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
ORGANISM
                                                                                              Ş
                                                                                                                                 Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION ACCESSION
                                                                 밁
                                                                                                                                                              Qy
                                                                                                                                                                                                 В
                                                                                                                                                                                                                                  Qy
   망
                               δÃ
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                    US-09-874-198-2 (1-686) x AX156466
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AX156466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                    ocal Similarity:
Match:
 331
                                                                                                                                   211
                                                                                                                                                                                                    151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ource
                                  80
                                                                                                  60
                                                                                                                                                                   40
                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                    91
                                                                                                                                                                                                 LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr
:::||||||::::: |||||||:::|||
ACCGTGGAGCTAAACAATATGTTTGGCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
GAAACTGAGGACCAGGTGCTGGCAACCTTCTGTGGCAGGAGACCACAGACACAGAGGAG
                  SerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArg
                                                               TACTTCATGCACTTCAACTTGGAATCCTCCTACCTTTGTGAATATGACTATGTGAAGGTA
                                                                                  TyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeu
                                                                                                                               CCCAGTGATTCAGAGGTGACTTGGAATATCACTGTCCCAGATGGGTTTCGGATCAAGCTT
                                                                                                                                                    ATGAGGTGGCTGCTTCTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCTTCAGCCCAC
                                                                                                                                                                                                                                                                                                   MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTCTCCAACTATGTGGACTGGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX156466
Sequence 1 f
AX156466
AX156466.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutherla; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 3895)
Jensenius, J.C. and Thiel, S. Masp-3, a complement-fixing enzyme, and uses for it Patent; WO 0140451-A 1 07-JUN-2001; Jensenius, Jens Christian (DK); Thiel, Steffen (DK)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GQEVVLSPGSEMSITERSDESNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNY
IGGYYCSCRFGYILHTDNRTCRVECSDILFTQRFGVITSDEFBNYPKSSECLYTIEL
EBGFMYNLQFBDIFDIQDDHEVVPCPDYIKIKYGPKVLGPFGGEKAPEPISTQGKSYL
ILFHSDNSAENRGWRLSYRAAGNECPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYK
VLKDNVEMDTFQIECLKGGTWSNKIPTCKIVDCRAPGELEHGLITFSTENNLTTYKSE
IKYSCQEPYKKLINNYGIYTCSAGOGYWMNKVLGRSLFTCLPECGQESRSLESLYKTI
IGGRNAEPGLFFWQALIVVEDTSRVFNDKWFGSGALLSASWILTAAHVLRSQRRDTTV
PYSKENTYVYLGLHDVBDKSGAVNSSARVVLHFDFNIQNYRNDIALYQLQEFVPLG
PHYMPVCLPRLEPEGRAPHIGGLYGAGWISTUNDEIISGGTRTLSDVLQYVKLPU
PHYBCKTSYESRSGNYSYTENMFCAGYYEGGKDTCLGDSGGAFYIFDDLSQRWVVQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
91. 2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVSWGGPEECGSKQVYGVYTKVSNYVDWVWEQMGLPQSVVEPQVER"
1 1068 c 987 g 888 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EVTWNITVPDGFRIKLYFMHFNLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /protein_id="CAC42682.1"
/db_xref="GI:14537541"
/translation="MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="unnamed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         from
                                                                                                                                                                                                                                                                                                                                                                                   1.02e-117
1600.00
60.22%
42.72%
42.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:14537540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3895 bp
: W00140451
                                                                                                                                                                                                                                                                                                                                    (1-3895)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                     3895
305
125
125
246
38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 22-JUN-2001
                                                                 330
 390
                                99
                                                                                              79
                                                                                                                                 270
                                                                                                                                                                  59
                                                                                                                                                                                                                                  39
                                                                                                                                                                                                 210
                                                                                                                                                                                                                                                                                                   20
                                              Q
                                                                               В
                                                                                                            Qy
                                                                                                                                                밁
                                                                                                                                                                              20
                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                    1231
                                                                                                                                                                                                                                                                                    1171
                                                                                                                                                                                                                                                                                                                                                    1111
                                                                                 1351
                                                                                                                                                1291
                                                                                                                                                                                                                                                                                                                                                                                                                     1051
                                                                                                                                                                                 400
                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                    340
                                                                                                                                                                                                                                                                                                                                                                                                                                                    320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlu
::::::||| ||||||||||| ||| ||| ||| ||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTCCCTGCCAAGCCTGGTCAAGAGGATCATTGGGGGCCGAAATGCTGAGCCTGGCCTC
                                    ArgThrThrGlyGly------ArgIleTyrGlyGlnLysAlaLysProGlyAsp
                                                                               ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAla
                                                                                                                                                TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGAGTCTGG
                                                                                                                                                                              PheTyrThrMet---LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp
                                                                                                                                                                                                                    TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC
                                                                                                                                                                                                                                                                                  ACCTGTAAAATTGTAGACTGTAGAGCCCCCAGGAGAGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                   TTCAAAGACCAAGTGCTCGTCAGCTGTGACACAGGCTACAAAGTGCTGAAGGATAATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCCAGAGCTACAGCCTCCTGTCCATGGGAAAATCGAGCCCTCCCAAGCCAAGTATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGACAACTCGGCAGAGAACCGGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGAGAAAGCCCCAGAACCCATCAGCACCCAGAGCCACAGTGTCCTGATCCTGTTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTGCCCCTATGACTACATCAAGATCAAAGTTTGGTCCAAAAGTTTTTGGGGCCCTTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTCAGGACCATCCTGAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCGAGTGGAGTGCAGTGACAACCTCTTCACTCAAAGGACTGGGGGTGATCACCAGCCCT
                                                                                                                                                                                                                                                                                                                                                    GAGATGGACACATTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                 ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCCCGGCCAGGAGGTGGTCCTCTCCCCTGGCTCCTTCATGTCCATCACTTTCCGGTCA
```

399

1170 379 1230

1290 418

438 1410 1050

990

299

319

870 279 239 810 259 179 630 199

690 219

750

1110 359

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
                                                                                                                                                         KEYWORDS
SOURCE
                                                                                                                                                                                   ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                   RNO277423
                                                                                                                                                                                                                                                                RESULT 18
                                                                  TITLE
                                                                                                                                              ORGANISM
                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1471
                                                                                                                                                                                                                                                                                         2182
                                                                                                                                                                                                                                                                                                                                           2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1885
                                                                                                                                                                                                                                                                                                                 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1711 CTCCACCCAGACTTC---AACATCCAAAACTACAACCACGATATAGCTCTGGTGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                     647
                                                                                                                                                                                                                                                                                                                                                                                                                       627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  456
                                                                                                                                                                                                                                                                                                    TyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCCAGCGTAGAGACACCACGGTGATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTG
                                                                                                                                                                                                                                                                                                                                                     TATGTCAAGTTACCCGTGGTGCCTCACGCTGAGTGCAAAACTAGCTATGAGTCCCCCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TyrValAspI1eProI1eValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGAGCCTGTGCCCCTGGGACCCCACGTTATGCCTGTCTGCCCAAGGCTTGAGCCT 1827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeu
::::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTGGGAGTGGGGCCCTGCTCTCTGCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr 486
                                                                                                                                                                                                                                                                                         TATGGAGTCTACACAAAGGTCTCCAATTACGTGGACTGGGTG
                                                                                                                                                                                                                                                                                                                                        GACACGTGCCTTGGAGATAGCGGTGGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGC
                                                                                                                                                                                                                                                                                                                                                                                                           AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGGC --- CCGGCCCCCCACATGCTGGGCCCTGGTGGCCGGCTGGGGCATCTCCAATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTTGCATGATGTGCGAGACAAATCGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluGlnLysHisAspAlaSerAlaLeuAspIle---ArgMetGlyThrLeuLysArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCCCGTGGCAGGCCCTGATAGTGGTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --- GGCAATTACAGCGTCACGGAGAACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATGTGACAGTGGATGAGATCATCAGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Interaction of mannose-binding protein with associated proteases: effects of naturally occurring mutations J. Biol. Chem. 275 (40), 30962-30969 (2000)
                                                                                Wallis, R. and
                                                                                                                                                                    mannose-binding
                                                                                                                                                                                  Rattus norvegicus parti
associated serine prote
AJ277423
AJ277423.1 GI:7688072
                                                                                                                               Eukaryota; Metazoa;
                                                                                                                                              Rattus norvegicus
                            20469449
                                                                                                         Rattus
                                                                                                                    Mammalia; Eutheria;
                                                                                                                                                         Norway rat
                                                                                                                                                                                                                                       RNO277423
                10913141
                                                                                           (bases 1 to 2108)
    (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----LeuAlaArgAsnLeuMet 586
                                                                              Dodd, R.B.
                                                                                                                                                                    protein associated serine
                                                                                                                                                                                                       2108 bp mRNA linear partial mRNA for mannose-binding protease-1 (masp-1 gene).
                                                                                                                              Chordata;
                                                                                                                    Rodentia;
                                                                                                                  Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                679
                                                                                                                                                                                                                                                                                         2223
                                                                                                                                                                    protease-1;
                                                                                                                   Muridae;
                                                                                                                                                                                                                      protein
                                                                                                                               Euteleostomi;
                                                                                                                                                                                                                                    ROD 05-OCT-2000
                                                                                                                   Murinae;
                                                                                                                                                                     masp-1
                                                                                                                                                                                                                                                                                                                                                                                                                                              2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1590
                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                    646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
Ş
                        В
                                              δÃ
                                                                            망
                                                                                                   δÃ
                                                                                                                             밁
                                                                                                                                                    Qy
                                                                                                                                                                                В
                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x RNO277423
                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                           Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                             No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                         249
                                                                            189
100
                                                                                                                              129
                                                                                                     60
                                                  08
                                                                                                                                                      40
                                                                                                                                                                                69
                                                                                                                                                                                                          22
                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                 550
                                                                                                                                                                                                                                                                                                                                                                                                                                 ۵
                                                                                                                                                                                                                                                                                                                                                                                                                               protease-1"
554 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="masp-1"
66. .2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protease-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YSYIYPNKDWIQRVTGVRN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /protein_id="CAB89695.1"
/db_xref="GI:7688073"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="masp-1"
/function="complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tissue_type="liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                            1.78e-114
1555.00
60.64%
42.16%
41.38%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "masp-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                 526
                                                                                                                                                                                                                                                                                     (1-2108)
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                 478
```

```
AlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSer 119
                                                                GAAACCGAAGACCAGGTGCTGGCAACCTTCTGTGGCAGGGAGACCACCGATACCGAGCAG
                                                                                                SerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArg 99
                                                                                                                                                                                                           TACTTCATGCACTTCAACTTGGAATCCTCCTACCTTTGTGAATATGACTATGTGAAGGTA
                                                                                                                                                                                                                                       TyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeu 79
                                                                                                                                                                                                                                                                                                                                               CCGAGTGACTCGGAGGTGACCTGGAATATTACTGTCCCGGAGGGGTTCCGGGTCCAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                AlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeu 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGACGGCTCCTCCTACCATGTTCTGTGCCTCACCCTG---ACGGAGGTTTCAGCCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyProLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCGTGGAGCTAAATGAAATGTTTGGCCAGATCCAGTCCCCTGGCTATCCGGATTCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (14-APR-2000) Wallis R., Department Glycobiology Institute, University of Oxford, Oxford OXI 3QU, UNITED KINGDOM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DLEEGEMUTLOFEDIEDIEDIEDHPEVPCPYDYIKIKAGSKVWGPPCGKSPEPISTOSHS
IQILFRSDNSGENRGKRLSYAAGNECPKLØPPYGKIEPSQAVYSFKOQVLISCDTG
YKVLKONEVNDTFOIECIKDGAWSNKIPTCKIVDCGVPAVLKHGLVTFSTRNNLTYK
SEIRYSCOQPYYKMLHNTTGVYTCSAHGTWTNEVLKRSLPTCLPVCGLPKFSRKHISR
IFNGRPAQKGTTPWIAMLSQLNGQPFCGSLLGSNWLVNPSTFENDLGLVELSESPFILHNS
HLLSPSDFKIIMGKHWRRSDEDEGHLHVKHHMLHPLVNPSTFENDLGLVELSESPFILNS
NDFVMPVCLPEHPSTEGTMVIVSGMGKOFLQRLPENLMEIEIPIVNYHTCQEAYTPLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /translation="LSFRRLLLYHVLCLTLTEVSAHTVELNEMFGQIQSPGYPDSYPS
DSEVTMNITVEGFRVQLYFMHFNLESSYLCEYDYKVETEDOVLATFCGRETTDTEQ
TPGGEVVLSPGSFMSVTFRSDFSNERBETGFDAHYMAVDDECKEREDEELSCDHYGT
TPGGYYCSCRFGYILHTDNRTCRVECSGNLFTQRTGTITSPDYPNPYPKSSECSYTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="masp-1"
/product="mannose-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKVTQDMICAGEKEGGKDACAGDSGGPMVTKDAERDQWYLVGVVSWGEDCGKKDRYGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism≖"Rattus norvegicus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of Biochemistry,
South Parks Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        serine
                                                                                                                                                                                                       248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   39
```

Qy	Оy	Ф	Дb	Оy	Оy		Оy	Db Qy	dq Qy	d Qy	Qу	Qу Db		Qy Db	Qy Db	Qy Db	Qy Db	Db
457	438 1329	419 1269	400 1209	380 1149	360 1089	340 029	320 969	300 909	280 849	260 789	240 729	220 669	200 609	180 549	160 489	140 429	120 369	309
ProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeu 473	AlaargThrThrGlyGlyArgIleTyrGlyGlyGlnLysalaLysProGlyAspPhe 456 :::	ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSer 437    :::	PheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp 418 :::	IleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThr 399     :::         :::        :::        :::   TCCACAAGAAACAACCTCACCACGTACAAATCTGAGATAAGGTACTCCTGCCAGCAACCC 1208	AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr 379	ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro 359 ::: ::	LeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeu 339	CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle 319	ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro 299 :::         :::::       :::::     :: AGCGACAATTCAGGAGAGAACCGAGGCTGGGAGGCTCTCCTACAGGGCTGCAGGAAATGAG 908	GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal 279     :::           :::  ::::::	LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys 259	GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr 239                    :::	GluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlu 219 :::	CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro 199	LeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThr 179 :::      :::	AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis 159	ASPTYrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspTle 139    :::        :::           :::	

Db	1389	CCATGGATTGCCATGCTGTCACAACTGAATGGGCAACCCTTCTGTGGGGGTAGCCTTTTA 14	1448
Qy	474	TyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr	36
DЪ	1449	GGTTCCAACTGGGTTTTGACGGCTGCTCACTGTCTCCACCATCCACTTGATCCAGAAGAG 15	80
Qy	487	lyThrLeuLys 5	03
Db	1509	CCAATCTTACACAACTCACATTTGCTCAGCCCTTCTGACTTCAAAATT 15	556
Qy	504	ArgLeuSerProHisTyrThrGlnAlaTrpSerGlu 51	15
DЬ	1557	ATCATGGGAAAGCACTGGAGACGCCTCAGATGAAGACGAACAGCATCTGCATGTAAAG 16	516
Qy	516	PheIleHisGluGlyTyrThr	ŭ
Db	1617	AACC	573
Qy	536	ysLeuAsnAsnLysValValIleAsn!	ÿ.
Db	1674	TGGAACTGTCAGAGAGTCCAAGGCTGAACGACTTTGTG	733
Qy	556	luSerPheMetArgThrAspAspIleGlyThrAlaSerGly 5	172
DЪ	1734	CACCCTTCCACTGAA	72
Qy	573	aArgAsnLeuMetTyrValAsp 5	9
Вb	1773	G	323
Qy	590	IleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArg	9
ДĎ	1824	ATACCTGCCAAGAGGCCTACACCCCATTG 1	871
Qy	610	lySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSe	8
Дb	1872	GGGAAGAAGTGACCCAGGACATGATCTGTGCTGGAGAAAAGGAAGG	31
Qy	629	CysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPhe 64	8
Db	1932	TGTGCTGGCGACTCTGGAGGCCCCATGGTGACCAAAGATGCAGAGAGAG	91
Qy	649	ValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyVal 66	8
Db	1992	CTGGTGGCCGTGGTGTCCTGGGGTGAAGATTGCGGGAAGAAAGATCGCTATGGAGTT 20	)48
Qy	669	TyrThrLysVallleAsnTyrIleProTrpIleGluAsnIle 682	
-1 10	ILT 19		
DEF	SUS FINITION	E D	ve - 2002
ACCE VERS	ACCESSION VERSION	D17525.1 GI:439712	
KEYV	ORDS	P100 serine prote P100; 70-kDa chai Ra-reactive facto	in of
SOUF	ORGANISM	Homo sapiens liver cDNA to mRNA, clone_lib:lambda gt10 phage	
		ryota; metazoa; chordata; chantata; ventebrata; buteneos	. T

JOURNAL MEDLINE REFERENCE AUTHORS TITLE REFERENCE AUTHORS TITLE Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 4489)

Takada, F., Takayama, Y., Hatsuse, H. and Kawakami, M.

A new member of the Cls family of complement proteins found in a bactericidal factor, Ra-reactive factor, in human serum blochem. Biophys. Res. Commun. 196 (2), 1003-1009 (1993) 94059062

2 (bases 1 to 4489)

Takada, F.

Direct Submission

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                       mat_peptide
                                                                                                                                             mat_peptide
                                                                                                                                                                                                                                                                                                         mat_peptide
                                                                                                                                                                                                                                                                                                                                          sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phone:
Fax:
E-mail:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (01-SEP-1993) Fumio Takada, Kitasato University School Medicine, Pediatrics and Molecular Biology; 1-15-1 Kitasato, Sagamihara, Kanagawa 228, Japan (E-mail:ftakada@kitasato-u.ac.jp, Tel:0427-78-9115, Fax:0427-78-8441) Submitted (01-Sep-1993) to DDBJ by: Fumio Takada
Dept. of Pediatrics and Molecular Biology
Kitasato University School of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kanagawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kitasato, Sagamihara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0427-78-9115
0427-78-8441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ftakada@kitasato-u.ac.
                                                       module;
1807. .:
                                                                                                                                                                         /product="P100 serine protease of Ra-reactive factor"
/function="activation of C4 and C2 components of
complement; bactericidal"
/standard_name="P100 protein of Ra-reactive factor (RaRF)"
/note="forms RaRF complex with mannose binding protein;
serine protease.sequence homologous to mouse P100; module
                                                                                                                                                                                                                                                                                                           /gene='
                                                                                                                                                                                                                                                                                                                                              463.
                                                                                                                                                                                                                                                                                                                                                                        IĞGYYCSCRFGYILHTDNRTCRVECSDNLFTQRTGYITSPDFPNPYPKSSECLYTIEL
EEGFWINLQFEDIFDLEDHPEVPCPUDYIKIKYGPKYLGPFCEKAPEPISTQSHSVL
ILFHSDNSGENRGWILSYRAAGNECPELQPPVHKKIEPSQAKYFFKDQVLVSCDTGYK
VLKDHSDNTGOIECLKGGTWSIKIPTCKIVDCRAPGELLHGLITFSTRNNLTTYKSE
IKYSCQEPYYKMLNNITGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWNNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWNNKVLGRSLPTCLPVCGLPKFSRKLMARIF
IKYSCQEPYYKMLNNITGIYTCSAQGVWNNKVLGRSLPTCHPXCACKAYAPLKKX
VTRDMICLTGEKEGGKDACSGDSGGPMVTLNRERGQWYLVGTVSWGDDCGKKDRYGVYS
VTRDMICLTGEKEGGKDACSGDSGGPMVTLNRERGQWYLVGTVSWGDDCGKKDRYGVYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /translation="mrwlllyyalcesiskasahtvelnumegqiqspgypdsypdsypds
EVTWNITVPDGFRIKLYEMHFNLESSYLCEYDYVKVETEDQVLATECGRETTDTEQTP
GQEVVLSPGSEMSITERSDESNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene-
463. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="CRARF"
<1. .>4489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=experimental /product="precursor of P100 factor"
                                                                                                                                                            serine protease; sequence homologous homologous to C1r/C1s of complement
                                                                                                                                                                                                                                                                                                                                                             YIHHNKDWIQRVTGVRN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /protein_id="BAA04477.1"
/db_xref="GI:439713"
/gene="CRARF"
/product="29-kDa chain of
/note="protease domain"
                                                                      /product="70-kDa chain of
/note="internal repeat 1;
module; internal repeat 2;
                                                                                                                          /gene="CRARF"
                                                                                                                                                                                                                                                                                      /gene="CRARF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="CRARF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="human liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (RaRF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /standard_name="mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene="CRARF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="liver"
/clone_lib="lambda g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /chromosome="3
/map="3q27-28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism≖"Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .4489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .4489
                                                                                                                                                                                                                                                                                                                           "CRARF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "CRARF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gt10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              jp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P100 protein of Ra-reactive factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phage"
                                                                    p100"
epidermal growth
; Sushi module 1;
                      P100'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              serine protease
                                                                                       factor-like
                                                                    Sushi module
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of
                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                Š
                                                     8
                                                                                 δÃ
                                                                                                                        В
                                                                                                                                                        Š
                                                                                                                                                                                             В
                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment
                                                    1183
                                                                                                                          1123
                                                                                                                                                                                             1063
                                                                                                                                                                                                                                                                    1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3'UTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO . .
                                                                                                                                                                                                                                                                                                                                          943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    463
                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                             883
                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                       GluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlu
                                                                                                                                                                                                                                                                                    CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSer 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr::::|||||||:::||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGTGGCTGCTTCTCTATTATGCTCTGTGCTTCTCCCCTGTCAAAGGCTTCAGCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                                                                                                                                             GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                             GACGAGTGCAAGGAGGAGGAGGAGGAGGTGTCCTGTGACCACTACTGCCACAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACTTCATGCACTTCAACTTGGAATCCTCCTACCTTTGTGAATATGACTATGTGAAGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCAGTGATTCAGAGGTGACTTGGAATATCACTGTCCCAGATGGGTTTCGGATCAAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeu
::::||| ||| ||| ||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scores:
                                                                                                                        GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTGAGGACCATCCTGAGGTG
                                                                                                                                                                                                                                                                  TGCCGAGTGGAGTGACAACCTCTTCACTCAAAGGACTGGGGTGATCACCAGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                         AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCCCGGCCAGGAGGTGGTCCTCTCCCCTGGCTCCTTCATGTCCATCACTTTCCGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAACTGAGGACCAGGTGCTGGCAACCTTCTGTGGCAGGGAGACCACAGACACAGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCGTGGAGCTAAACAATATGTTTGGCCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="CRARF"
2948. 2953
/gene="CRARF"
3397. 3402
/gene="CRARF"
a 1210 c 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.9e-114
1553.00
60.76%
42.48%
41.33%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       x D17525 (1-4489)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1024
                                                                                                                                                                                                                                                                                                                                        1002
                                                                                                                                                                                                                                                                    1062
                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  522
                                                                                                                                                                                             1122
                                                                                                                                                                                                                                                                                                                                                                                                             942
                                                                                                                                                                                                                                                                                                                                                                                                                                               159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            582
                  279
                                                                                                                                                                                                                                219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
```

В

```
2284
                                                                                                                                                                                                                                                                                                  2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1783
                                                                                                                                                                                                                                                                                                                                                                                             2065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1843
                                                  592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          945
                         IleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGlySer
||||||||||||
                                                                                                                                                                                                                                                                                             AlaLeuAspIleArgMetGlyThrLeuLys-----ArgLeuSerPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTGGATTGCCATGCTGACACCTGAATGGGCAGCCCTTCTGCGGAGGCTCCCTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCCCGGAAGCTGATGGCCAGGATCTTCAATGGACGCCCAGCCCCAGAAAGGCCACCACT 1842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAATAAAGTATTGGGGAGAAGCCTACCCACCTGCCTTCCAGTGTGTGGGCTCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGAGTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTGTAAAATTGTAGACTGTAGAGCCCCAGGAGAGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATGGACACTTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCAAAGACCAAGTGCTCGTCAGCTGTGACACAGGCTACAAAGTGCTGAAGGATAATGTG
ATTGTTGACCACAGCACCTGCCAGAAGGCTTAT-----GCCCCGCTGAAGAAG---AAA 2334
                                                                                                                                          LeuThrGlnArgGlyPheLeuAlaArg-----
                                                                                                                                                                                                                      ArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGly ::: ||||||||||||
                                                                                                                                                                                                                                                                                                                                        GTAAAACACCACTCTCCACCCCAAGTATGATCCCAACATTCGAGAATGACGTGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrThrHisAspAla--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAATCATCCTGGGCAAGCATTGGAGGCTCCGGTCAGATGAAAATGAACAGCATCTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----HisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCACTCGATCCGAAAGATCCGACCCTACGTGATTCAGACTTGCTCAGCCCTTCTGACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCTCCAGCTGGATCGTGACCGCCGCACACTGCCTCCACCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSer 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpGlnValLeuIleLeu------GlyGlyThrThrAlaAlaGlyAlaLeuLeu 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---AlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPhe
:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheTyrThrMet---LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTACAAGGAACCACCACACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCCCAGAGCTACAGCCTCCTGTCCATGGGAAAATCGAGCCCTCCCAAGCCAAGTATTTC 1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGACAACTCGGGAGAACCGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGAGAGAAAGCCCCAGAACCCATCAGCACCCAGAGCCACAGTGTCCTGATCCTGTTCCAT 1302
                                                                                             AAGCAGTTCTTGCAAAGGTTCCCAGAGACCCTGATGGAGATTGAAATCCCG
                                                                                                                                                                                             -GAGGGACCCCAGCAGGAAGGAGCCATGGTCATCGTCAGCGGCTGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                    -----GlyPheAspAsnAspIleAla
                                                                                                                                             -AsnLeuMetTyrValAspIlePro
                                                                                                                                                                                                                                                                                                                                                                                                                                        534
                                               611
                                                                                               2283
                                                                                                                                                                                             2232
                                                                                                                                                                                                                                             574
                                                                                                                                                                                                                                                                                             2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1482
                                                                                                                                             591
                                                                                                                                                                                                                                                                                                                                             554
                                                                                                                                                                                                                                                                                                                                                                                          2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 319
```

Qy Db

В

04 DP OA

NO V 
 Db
 Oy

 Db
 Oy

ρ Q Вb

Оу Оу Оу Оу Оу

Qy

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MUSCRARF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COCUS
                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2395
                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGACCAGGGACATGATCTGTGCTGGGGAGAAGGAAGGGGGGAAAGGACGCCTGTTCGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTCTGGAGGCCCCATGGTGACCCTGAATAGAGAAAGAGGCCAGTGGTACCTGGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCACCACAACAAGGACTGGATCCAGAGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValIleAsnTyrIleProTrpIleGluAsnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTGTGTCCTGGGGTGAT - - - GACTGTGGGAAGAAGGACCGCTACGGAGTATACTCTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGly
                                                                                                                                                                                                                                                                                  Submitted (19-JUN-1993) Yoshinaga Takayama, Kitasato University, Dept. of Mol. Biol., School of Medicine; 1-15-1 Kitasato, Sagamihara, Kanagawa 228, Japan (Tel:0427-78-9115, Fax:0427-78-8441) On Sep 25, 1993 this sequence version replaced gi:303703. Submitted (19-JUN-1993) to DDBJ by: Yoshinaga Takayama Dept. of Molecular Biology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    raxayama,Y., Takada,F., Takahashi,A. and Kawakami,M. A 100-KDa protein in the C4-activating component of factor is a new serine protease having module organi to C1r and C1s
                                                                                                                                                                                                                                      School of Medicine
Kitasato University
1-15-1 Kitasato, Sa
                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                              Takayama,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mouse mRNA for
                                                                                                                                                                                       Phone:
                                                                                                                                                                                                                          Kanagawa 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94179811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93176166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biochem. Biophys. Res. Commun. 190 (3), 681-687 (1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mouse serum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              component of the complement-dependent bactericidal factor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presence of a serine protease in the complement-activating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Takahashi,A., Takayama,Y., Hatsuse,H. and Kawakami,M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D16492.1 GI:403200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D16492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complete cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor; RaRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-kDa chain; 70-kDa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MUSCRARF
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 5135)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunol.
                                                                                                                                                                                       0427-78-9115
                                                                                                                                                        ytakayam@niguts.nig.ac.jp
0427-78-8441.
/chromosome="16"
/map="16B2-B3."
/tissue_type="liver"
                                                     /sub_species="domesticus"
/db_xref="taxon:10090"
                                                                                     /strain="BALB/c"
                                                                                                      ∕organism="Mus
                                                                                                                                   Location/Qualifiers
                                                                                                                         . 5135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152 (5),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (sub_species:domesticus, strain:BALB/c) liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P100
                                                                                                                                                                                                                                          Sagamihara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2308-2316 (1994)
                                                                                                      musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protease of Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P100 serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          module organization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            component of Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor (RaRF),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ROD 29-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RaRF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                           US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                     Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                  TOUNT
                                                                                                                                                                                                                                                                                                                                                                                                                 polyA_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mat_peptide
                      267
                                                                                 207
                                                                                                                                              147
                                                    99
                                                                                                                                                                            26
                                                                              LeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysVal
                                                                                                                                           ATGTTTGGTCAGATCCAGTCACCTGGCTATCCAGATTCCTATCCAAGTGACCTCTGAGGTG
                                                                                                                                                             ValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArg
                   TTGGAATCCTCCTATCTTTGTGAATACGACTATGTGAAGGTAGAAACAGAAGACCAGGTG
                                                                                                                                                                                                                                                                                                                                                                                     1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /protein_id="BAA03944.1"
//db_xref="01:303704"
//db_xref="01:303704"
//db_xref="01:303704"
//translation="mrelsfwrlllyhalclalpevsahtvelnemfgQIQSpgypDS
//translation="mrelsfwrllyhalclalpevsahtvelnemfgQIQSpgypDS
/psDSevTwn1TvpeGFRIKLYmHFNLESSYLCEYDYVKVETEDQVLATFCGRETTD
TEQTPGQEVVLSPGTFMSVTFR8DFSNBERFTGFDAHYMAVDVDECKEREDEELSCDH
YCHNYIGGYYCSCRFGYILHTDNRTCRVECSGNLFTQRTGTITSPDYPNYYFKSECS
YTIDLEEGFMVSLQFEDIFDIEDHPEVPCPYDYIKIKAGSKYNGPFCGEKKSPEDISTQ
THSVQILFRSDNSGENRGWRLSYRAAGNECPKLQPPVYGKIEPSQAVYSFKDQVLVSC
DTGYKVLKDNGVMDTFQ1ECLKDGAWSNKIFTCKIVDCGAPAGLKHGLYTFSTRNNLT
TYKSEIRTKSCQDPYYKNLHNTTQVTTCSAHGTWTNKVLKRSLPTCLPVGCVPKFSBKQ
ISRIFNGRPAQKGTMPWIAMLSHLNGQPFCGGSLLGSNWVLTAAHCLHQSLDPEEPTL
HSSYLLSPSDFKIIMGKHWRRRSDEDECHLHVKRTTLHPLYNPSTFENDLGLVELSES
PRLNDFWMPVCLPEQPSTEGTMVIVSGMGKQFLQRFFENLMEIEIPIVNSDTCQEAYT
PLKKKVTKDMICAGEKEGGKDACAGDSGGPMVTKDAERDQWYLVGVVSWGEDCGKKDR
YGVYSYIYPNKDWIQRITGVRN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .5135
/gene="Crarf"
<1. .51%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            module;
1413. .2
                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="Crarf"
5135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene=
54. .2
                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="Crarf"
5111. .5116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /evidence=experimental
<1. .53</pre>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="protease 2169. .5135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement; bactericidal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="Crarf"
/citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                /gene="Crarf"
1318 c 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="Crarf"
/product="70-kDa chain of p100"
/note="internal repeat 1; epide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /evidence=experimental
/product="P100 serine
(RaRF)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        function="activation of C4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="Crarf"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="29-kDa
                                                                                                                                                                                                                                       1.56e-113
1549.50
61.54%
42.82%
41.23%
                                                                                                                                                                                                         x MUSCRARF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Crarf"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Crarf"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           internal repeat
                                                                                                                                                                                                                                                                                                                                                                                   1132
                                                                                                                                                                                                         (1-5135)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a chain of P100"
domain"
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                     Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1; epidermal growth
t 2; Sushi module 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and C2 components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ^{\rm of}
                                                                                                                                                                                                                                       5135
295
129
212
53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sushi mudule
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         factor-like
                                                 85
                                                                                                             65
                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                            Ş
                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                  밁
                                                                                             B
                                                                                                                          Ş
                                                                                                                                                          B
                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                        1167
                                                                                                                                                                                                                                                                                    1107
                                                                                                                                                          1227
                                                                                                                                                                                                                                                                                                                                                 1047
                                                              425
                                                                                                                            406
                                                                                                                                                                                                                                                     366
                                                                                                                                                                                                                                                                                                                                                                                326
                                                                                                                                                                                                                                                                                                                                                                                                               987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle
                                                                                                                                                                          ThrThrTyrLysAlaVallleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal
                                                                                                                                                                                                                                                                                                                                               LeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThr
                                                                                                                                                                                                                      TGTGGAGCTCCTGCAGGGCTGAAACATGGGCTAGTAACCTTCTCCACCAGAAACAACCTC
                                                                                                                                                                                                                                                                                   ATTGAGTGTCTGAAGGACGGTGCATGGAGTAACAAGATCCCCCACCTGTAAAATTGTAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                           ProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAATCAGCACCCAGACTCACAGTGTCCAGATCCTATTCCGCAGCGACAACTCAGGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGTTTGAGGACATTTTTGACATTGAAGACCATCCTGAGGTGCCCTGTCCCTATGACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCAATCTCTTTACCCAGAGGACAGGCACAATCACCAGCCCCGATTACCCCAACCCTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCTGCCGCTTTGGCTACATCCTCCACACAGACAGGACCTGCCGAGTGGAATGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLys 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCAACCTTTTGTGGCAGGGAGACCACCGATACTGAGCAGACCCCCGGCCAGGAAGTG
                                AGAAGCCTGCCCACCTGCCTTCCAGTGTGTGTGTCCCCAAGTTCTCCCGGAAGCAGATC
                                                            LysSerLeuProValCysGluProValCysGlyLeuSer----AlaArgThrThrGly
                                                                                             AATACCACAGGTGTATATACGTGTTCTGCTCATGGGACCTGGACGAACAAAGTGCTCAAG
                                                                                                             Asn---AspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGlu 424
                                                                                                                                                          ACCACATACAAATCTGAGATAAGGTACTCCTGCCAACAGCCCTATTACAAGATGCTTCAC
                                                                                                                                                                                                                                                  CysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGlyVal
                                                                                                                                                                                                                                                                                                   AlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAsp
                                                                                                                                                                                                                                                                                                                                                                                                               CCTGTGTACGGGAAAATCGAGCCCTCGCAGGCCGTGTATTCCTTCAAAGACCAAGTGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACCGAGGCTGGAGGCTCTCCTACAGAGCGGCAGGAAATGAGTGCCCAAAGCTACAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTAAGATTAAAGCTGGTTCAAAAGTATGGGGTCCCTTCTGTGGAGAGAAATCCCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGATTCACAGGCTTCGACGCCCACTACATGGCTGTAGATGTGGATGAGTGCAAGGAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTCTTTCGCCTGGCACCTTCATGTCTGTCACTTTCCGGTCAGATTTCTCCAATGAGGAA
                                                                                             1346
                                                                                                                                                        1286
                                                                                                                                                                                                                                                                                                                  365
                                                                                                                                                                                                                                                                                    1166
                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                               1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            205
```

밁 Ş В Ş В οy

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                            SOURCE
                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                     HUMMASP
LOCUS
                                                                                                                                                                                                                                                                                                        RESULT 21
                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                   VERSION
                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                         2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                             654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       520 HisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsn
                                                                                                                                                                                                                                                                                                                                                                                                            067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSer 633
                                                                                                                                                                                                                                                                                                                                     CCCAACAAGGACTGGATCCAGAGGATC 2150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGlySerValThr 613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---AAGCAGTTCTTACAGAGGTTTCCAGAGAACCTGATGGAGATTGAAATCCCAATTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnArgGlyPheLeuAlaArg-------AsnLeuMetTyrValAspIleProIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerPheMetArgThrAspAspIleGlyThr-----AlaSerGlyTrpGlyLeuThr 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyThrLeuLysArg-----LeuSerPro------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMet 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnTyrIleProTrpIleGluAsnIle 682
                                                                                                                                                                                                                                                                                                                                                                                                            TCCTGGGGTGAA---GATTGCGGGAAGAAAGATCGCTATGGAGTCTATTCTTACATCTAT 2123
                                                                                                                                                                                                                                                                                                                                                                                                                                          SerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAGGCCCTATGGTGACCAAAGATGCAGAGAGAGACCAATGGTACCTGGTGGCGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyIleVal 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGACATGATCTGTGCCGGAGAAAAGGAAGGGGGGAAAGATGCCTGTGCTGGTGACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACTCTGACACCTGCCAGGAGGCCTAT-----ACCCCATTGAAGAAG----AAAGTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCCACTGTAC---AACCCCAGCACGTTTGAGAACGACCTTGGTCTGGTACTGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACTGGAGACGCTCAGACGAAGACGAGCAGCACCTGCATGTAAAGCGCACCACGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAACCCTACACAGCTCATACTTGCTCAGCCCTTCTGACTTCAAAATTATCATGGGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGCTGCTCACTGCCTCCACCAG ------TCACTTGATCCAGAAGAA 1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCACACCTGAACGGACAACCCTTCTGTGGGGGTTAGCCTTTTAGGTTCCAACTGGGTTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Leu-----GlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeu
                                                                                                                                       Cls like serine protease; MASP; MBP associated serine proteinase; mannose-binding protein associated serine protease. Homo sapiens 26 week old fetus male liver cDNA to mRNA,
Molecular characterization of a novel serine protease involved activation of the complement system by mannose-binding protein
                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 2787)
Sato,T., Endo,Y., Matsushita,M. and Fujita,T.
                                                                                                                        clone_lib:lambda gt10.
                                                                                                                                                                                              D28593.1
                                                                                                                                                                                                                                 protease), complete
                                                                                                                                                                                                                                                 Human mRNA for MASP
                                                                                                                                                                                                                                                                     HUMMASP
                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------GGAACCATGGTCATCGTCAGTGGCTGGGGG-----
                                                                                                                                                                                              GI:790963
                                                                                                                                                                                                                             2787 bp mRNA li
(mannose-binding protein
cds.
                                                                       Hominidae;
                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                 associated
                                                                                       Euteleostomi;
                                                                       Homo
                                                                                                                                                                                                                                                 serine
                                                                                                                                                                                                                                                                 29-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1466
                                                                                                                                                                                                                                                                                                                                                                                                                                             673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    507
                  in
δÃ
                                                                 Qy
                                  B
                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                           Best Local
                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                 Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                  No..
21
                                  91
LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr 39
                                  ATGAGGTGGCTTCTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCTTCAGCCCAC
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                polyA_site
                                                                      US-09-874-198-2 (1-686) x HUMMASP (1-2787)
                                                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sig_peptide
MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                            Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Department of Biochemistry; 1 Hikarigaoka, Fukushima, Fukushima 960-12, Japan (F-mail:GBD02047@niftyserve.or.jp, 7e1:0245-48-2111(ex.232), Fax:0245-48-6760) On May 2, 1995 this sequence version replaced gi:471127. Submitted (22-Feb-1994) to DDBJ by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Int. Immu
94289349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission Submitted (22-FEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sato, T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fukushima 960-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fukushima Medical College
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Department of Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tetsuo Sato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hikarigaoka,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 2787)
                                                                                                                                                                                                                                                                                                                                                                                                                                                713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Immunol. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GBD02047@niftyserve.or.jp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0245-48-2111 x2232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0245-48-6760
                                                                                                                                                                                                                                                                                                                                                                                                                                                    മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ÉVTWNITVPDGFRIKLYFMHFNLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTP
GQEVVLSPGSFNSITFRSDESNEERFTGFDAHYMANDVDECKEREDEELSCDHYCHNY
IGGYVCSCRFGYILHTDNRTCRVECSDNLETGRTGVITSPDFPNPYFKSSECLYTIEL
EEGFMVNLQFEDIFDIQDHPEVPCPYDYIKIKVGPKVLGPFCGEKAPEPISTGSHSVL
ILFHSDNSAENRGWRLSYRAAGNECPELQPVHGKIEPSQAKYFFKDQVLVSCDTGYK
VLKDNVEMDTFQLECLKIGTWSNKIPTGKITORGELEHGLITFFSTRNLMARTE
KYKOQEPYKKLINNNTGIYTCSAQCVWMNKVLGRSLPTCLPVGLFRFSRKLMARTE
KYKOQEPYKKLINNTGIYTGSAQCVWMNKVLGRSLPTCLPVGLFRFSRKLMARTE
NGRPAQKGTTPWIAMLSHLNGQPFCGGSLLGSSWIVTAAHCLHQSLDPGDFTLRDSDL
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELESPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVELASPVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTLHPQVDPNTFENDVALVENA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGVLNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGNA
LSPSDBTKIILGKHWRLESDENBOHLGVKHTHPUNDTHGGGGNA
LSPSDBTKIILGKHWHTHPUNDTHGGGGNA
LSPSDBTKIILGKHWHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKIILGKHWHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHPUNDTHGGGGNA
LSPSDBTKHTHTH
LSPSDBTKHTHTH
LSPSDBTTTHTHTHUNDTHGGGNA
LSPSDBTKHTHTH
LSPSDBTKHTHTH
L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /standard_name="MASP"
2787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YIHHNKDWIQRVTGVRN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VTRDMICAGEKEGGKDACAGDSGGPMVTLNRERGQWYLVGTVSWGDDCGKKDRYGVYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FVMPICLPEGPQQEGAMVIVSGWGKQFLQRFPETLMEIEIPIVDHSTCQKAYAPLKKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /protein_id="BAA05928.1"
/db_xref="GI:471128"
/translation="MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /function="Cls like
/standard_name="MBP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="liver"
/clone_lib="lambda g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:9606"
/chromosome="3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="MASP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="MASP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /dev_stage="26 week
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /map="3q27-28."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (22-FEB-1994) Tetsuo Sato,
                                                                                                                                            4.02e-113
1540.00
60.48%
42.19%
40.98%
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                    773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .2187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fukushima
                                                                                                                                                                                                                                                                                                                                                                                                                                                    O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665-669
                                                                                                                                                                                                                                                                                                                                                                                                                                                    689
                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                            Indels:
                                                                                                                                                                                                            Mismatches:
                                                                                                                                                                                                                                               Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gt10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        old
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Serine protease" associated Serin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fetus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fukushima Medical College,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Serine
                                                                                                                                     2787
300
130
235
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protease
       20
```

Ş

B 64 B

g VQ 04 04 05 09 õ

B

64 65 65 80 PB

밁

 δÃ

망

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                RESULT 22
RNO18565
LOCUS
                                                                                                                                                                                   밁
                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1633
                                                                                                                                                                                                                                                                                                       1963
                                                                                                                                                                                                                                                                                                                                                                                                                        1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2140
                                                                                                                                                                                                                                                                                                                                                                1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1291 TATTACAAGATGCTCAACAATAACACAGGTATATATATACCTGTTCTGCCCAAGGAGTCTGG 1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1231 TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC 1290
                                                                                                                                                      672
                                                                                                                                                                                                                                                                                                                                                                                                                                                    .575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   457
                                                                                                                                                                                 ACTGTGTCCTGGGGTGAT - - - GACTGTGGGAAGAAGGACCGCTACGGAGTATACTCTTAC
                                                                                                                                                                                                                                                              AspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGly 651
                                                                                                                                                                                                                                                                                                    AlaLeuAspIleArgMetGlyThrLeuLys-----ArgLeuSerPro----- 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCTCCAGCTGGATCGTGACCGCCGCACACTGCCTCCACCAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSer 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAATAAAGTATTGGGGAGAAGCCTACCCACCTGCCTTCCAGTGTGTGGGCTCCCCAAG 1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSer--- 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PheTyrThrMet---LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp 418
                                                                                                                          ATCCACCACAACAAGGACTGGATCCAGAGGGTC
                                                                                                                                                    ValileAsnTyrileProTrpIleGluAsnile
                                                                                                                                                                                                                                             GACTCTGGAGGCCCCATGGTGACCCTGAATAGAGAAAGAGGCCAGTGGTACCTGGTGGGC
                                                                                                                                                                                                                                                                                                                                                              ATTGTTGACCACAGCACCTGCCAGAAGGCTTAT-----GCCCCGCTGAAGAAG---AAA 1962
                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuThrGlnArgGlyPheLeuAlaArg------AsnLeuMetTyrValAspIlePro 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCTGGATTGCCATGCTGACACCTGAATGGGCAGCCCTTCTGCGGAGGCTCCCTTCTA 1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpGlnValLeuTleLeu------GlyGlyThrThrAlaAlaGlyAlaLeuLeu 473
                                                                                                                                                                                                              IleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLys 671
                                                                                                                                                                                                                                                                                                                                                                                                                       -----AAGCAGTTCTTGCAAAGGTTCCCAGAGACCCTGATGGAGATTGAAATCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAATCATCCTGGGCAAGCATTGGAGGCTCCGGTCAGATGAAAATGAACAGCATCTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------HisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGly 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCACTCGATCCGGGAGATCCGACCCTACGTGATTCAGACTTGCTCAGCCCTTCTGACTTC 1632
RNO18565 1027 bp mRNA linear ROD 27-JAN-2000 Rattus Norvegicus mRNA for MASP-2 protein, partial, clone prl-2. Y18565 1 GI:6689086 Y18565.1 GI:6689086 MASP-2 gene; MASP-2 protein.
                                                                                                                          2172
                                                                                                                                                       682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2139
                                                                                                                                                                                                                                                                                                    2022
                                                                                                                                                                                                                                                                                                                                                                                                                       1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     554
```

```
Ъ
                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                  Qy
                                           В
                                                                           ρ
                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x RNO18565 (1-1027)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       URES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                              t Similarity:
Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ource
  427
                                             181
                                                                                  407
                                                                                                                           121
                                                                                                                                                                    387
                                                                                                                                                                                                                                                      367
                                                                                                                                                                                                                                                                                                                                      347
                                                                                                                                                                                                                                                                                                                                                                                                                                              Match:
                                                                                                                                                                                                             61
                                      AspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSer 426
|----GTTAAATATGTGTGTGAGGCTGATGGATTCTGGACGAGCTCCAAAGGAGAAAAATCC 237
                                                                                                                         GlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGlyValThr
                                                                                                                                                                                                                                                                                                                 ValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAspCys
LeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyr
                                                                                                                                                                                                           GGCCCTCCCGATGACCTACCCAATGGCCACGTGGACTATATCACAGGCCCTGAAGTGACC
                                                                                                                                                                                                                                                                                             GTCTGTCAGAAAGATGGATCTTGGGACCGGCCGATACCAGAGTGCAGCATTATTGACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Direct Submission
Submitted (23-DEC-1998) C.M.
Submitted (23-DEC-1998) C.M.
and, Immunology, University (
an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Immuno
20054576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 (bases 1 to stover, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus
Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stover, C.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Stover,C.M., Thiel,S., Lynch,N.J. and Schwaeble,W
The rat and mouse homologues of MASP-2 and MAp19,
lectin activation pathway of complement
lectin activation bathway of complement (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0586086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1027)
over,C.M., Thiel,S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="MASP-2"
1021. 1027
/gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="MASP-2 protein"
/protein_id="CAB65382.1"
/protein_id="CAB65382.1"
/db_xref="G1:6689087"
/translation="VCQKDGSWDRPIPECSIIDCGPPDDLPNGHVDYITGPEVTTYKA
/translation="VCQKDGSWDRPIPECSIIDCGPPDDLPNGHVDYITGPEVTTYKA
/translation="VCQKDGSWDRPIPECSIIDCGPPDLPNGHVDYITGSGRIIGGO
PAKPGDFPWQVLLLGETTAAGALIHDDWPLTAAHAVYGKTEVGCLSTHTSGGILKRLSL
PVTQAWPEAVFTHEGYTHGAGFDNDIALIKLKNKVTINRNIMPICLPREBASLMKTD
IYTQAWPEAVFTHEGYTHGAGFDNDIALIKLKNKVTINRNIMPICLPREBASLMKTD
IYTQAWPEAVFTHEGYTHGAGFDNDIALIKLKNKVTINRNIMPICLPREBASLMKTD
IYTQAWPEAVFTHGGTPMAGALIHFYDIPIVDHQKCATAYTKQPYPGAKVTVNMLCAGLDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="MASP-2"
<1. .1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /oryanism="Rattus norvegicus"
/strain="Fisher 344"
/db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGKDSCRGDSGGALVFLDNETQRWFVGGIVSWGSINCGGSEQYGVYTKVTNYIPWIEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="MASP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="prl-2"
                                                                                                                                                                                                                                                                                                                                                                                                                       1.41e-111
1513.50
87.948
80.888
40.278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1027)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; I Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of Leices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Leicester,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Department of Microbiology
                                                                                                                                                                                                                                                                                                                                                                                                                    1027
275
24
40
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .₩
.IJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
Murinae;
  446
                                                                                                                           180
                                                                                                                                                                    406
                                                                                                                                                                                                                                                  386
                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ģ,
                     JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 23
AB009074
LOCUS
                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                     TITLE
                                                                                                                                            AUTHORS
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThr 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGTGGACATACCAATTGTTGACCACCAAAAATGTGCTACTGCGTATACAAAGCAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACATCATGCCGATTTGTCTACCAAGAAAAGAAGCTGCATCCTTAATGAAAACAGACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAGGACAGCCTGCAAAGCCTTGGTGACTTTCCTTGGCAAGTCTTGTTACTGGGTGAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAGCTGCAGAGGTGACAGCGGAGGGGCATTAGTGTTTCTAGACAATGAAACACAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACCCAGGAGCAAAAGTGACTGTTAACATGCTCTGTGCTGGCCTAGACCGCGGTGGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGCAGCAGGTGCTCTTATACATGACGACTGGGTCCTAACAGCTGCTCATGCTGTATAT
                                                                                               Endo,Y., Takahashi,M., Nakao,M., Saiga,H.,
Matsushita,M., Nonaka,M. and Fujita,T.
Two lineages of mannose-binding lectin-asso
                                                                                                                                                                                                                                                Triakis scyllium adult liver Triakis scyllium
                                                                                                                                                                                                                                                                                                                                                                         AB009074
Triakis scyllium mRNA
                                                                                                                                                                                                                                                                        MASP; mannose-binding lectin-associated serine Triakis scyllium adult liver cDNA to mRNA.
Endo, Y
                                         99008558
                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Elasmobranchii; Galeomorphii;
                                                                                                                                                                                                                                                                                                                   AB009074.1
                                                                                                                                                                                                                                                                                                                                    protease, complete AB009074
                                                                                  (MASP) in vertebrates
                                                                                                                                                                                        Triakidae;
                     (bases 1 to
                                                          Immunol.
                                                                                                                                                                  (sites)
                                                                                                                                                                                     Triakis.
                                                                                                                                                                                                                                                                                                                   GI:6407544
                                                            161 (9),
                                                                                                                                                                                                                                                                                                                                                                         2407 bp mRNA linear VRT 14-1 for mannose-binding lectin-associated
                                                                                                                                                                                                         Craniata; Vertebrata; Chondrichthyes; Galeoidea; Carcharhiniformes;
                                                                                                       associated
                                                                                                                                              Sekine, H.,
                                                                                                                                                                                                                                                                                           protease
                                                                                                       serine
                                                                                                                                                                                                                                                                                                                                                                                                     VRT 14-NOV-1999
                                                                                                     protease
```

686 957

serine

646

897

626

606 717 586 657

777

837

597

537

477 506 417

190 557

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE
                                                                                                               밁
                                                                                                                                               Q
                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
     Š
                                         В
                                                                       Qy
                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-874-198-2 (1-686) x AB009074 (1-2407)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                      318
                                                                                                                                                                                                                                                              258
                                                                                                                                                                                                                                                                                                                                  198
                                                                                                                                                                                                                                                                                                                                                                                                         138
     151
                                                                             131
                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                              71
                                                                                                                                                                                                                                                                                                                                                                      51
                                                                                                                                                                                                                                                                                                                                                                                                                                           31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr
                                                                                                                                                                                                   LeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCys
                                                                                                                                                                                                                                                                                                                                                   AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
 ThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGly 170
                                     GAGGCTCATTATTCTGCCGTCGATATCGATGAGTGTGTGGAGAAACTAGATGAAGCGTTA
                                                                       GluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaProGlyGluAlaPro
                                                                                                           ANTACCATGGCTGTCACATTGAAGACTGACTTTTCCAATGAGGAGCGTTTCACCGGCTTC
                                                                                                                              SerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPhe 130
                                                                                                                                                                                   GGCAGAGAGAGCACTGACACTGAGCAAATCCCAGGCCGAGAGTTTGTCCTGACTAACAGC
                                                                                                                                                                                                                                                          CTCTGTGAATACGACTACGTGAAGGTTGTGTCTGATGAAGATTTGCTGGAAACATTCTGT
                                                                                                                                                                                                                                                                                                                                GTACCCGCTGGATTTCGAATCAAGCTCTACTTCATGCACTTTGACCTGGAGCCCTCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                    CAGTCTCCCAATTATCCGGAAGGATACCCCAAGTGATTTAGACGTAACCTGGAATATAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerValAlaThrProLeuGlyProLysTrpProGlu-----ProValPheGlyArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (21-NOV-1997) Yuichi Endo, Fukushima Medical College, Dept. of Biochemistry: 1-Hikarigaoka, Fukushima, Fukushima 960-12, Japan (E-mail:yendo@cc.fmu.ac.jp, Tel:0245-48-2111(ex.2233), Fax:0245-48-6760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Sul
Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /protein_id="Baa86867.1"
/db_xref="G1:6407545"
/db_xref="G1:6407545"
/translation="McCewlfyLsfftpaganvteltgmfgqIqspnypegypsdldy
/translation="McCewlfyLsfftpaganvteltgmfgqIqspnypegypsdltpgr
TWNITVPAGFRIKLYFMHFDLEDFSYLCEYDYVKVVSDEDLLETTCGRESTDTEQ1FGR
EPVLTNSNTMAVTLKTDDFSMERETGFEAHYSAVDIDEGVEKLDEALVCDHFCHNYIG
GYYGSCRFSYILHTDNRTCKVECNDNVFTEKSGVIRSPVPPYPFYRSSDCLYRIELEE
GFAISLEFADMFDLEDHFDVPCFYDYLKIKAGSWAFGPFCGDKSFGKIDTNSSSYGL
EHSGGSGDNQGWKNSFLSVGTPCPILHPPANGTIEPVDDQYSFSDQVDIRGNGFKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KAGDEVEAYQIECQKSGSWSSSIPTCKVIDCGAPRPLEDGIITFHSKENLTLFRSHIE
YSCPALHYHLEPELNTTYTCMENGFWVNDELGTDLPTCQPVCGRPAFDLPHNKRIIG
GRTAAPGFF PWQLLIVVEDVSRVPKDKWFGSGALLSRTWVLTAAHVLRSQRRDTITIV
PSEYVTIYLGLHDVRQKEAAARRTVEKIILHKAFDPRTYNNDIALVKMKDKVSMNVFV
MPLCLPSLHQEMEEPQPNTLGLVAGWGIINPNLTLDDASGSDQATLSNILQYVKLPVT
LQAECKSSYESRSDSYNVTDNMFCAGFYEGGKDTCLGDSGGAFITYDSSTQSWVAQGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSWGGPEKCGSKRVYGVYTKISKYARWLADKMSNSSD"
553 c 610 g 592 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Triakis scyllium"
/db_xref="taxon:30494"
/tissue_type="liver"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-"MASP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /dev_stage="adult"
51. .2210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.18e-111
1510.00
58.08%
40.53%
40.18%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2407
291
126
245
56
                                                                         150
                                                                                                                                                                                                                    110
                                                                                                                                                                                                                                                                                                                                                                                                      197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137
                                                                                                                                                                                   377
                                                                                                                                                                                                                                                                                                                                                                                                                                       50
                                                                                                               437
                                                                                                                                                                                                                                                        317
                                                                                                                                                                                                                                                                                            90
                                                                                                                                                                                                                                                                                                                              257
                                                                                                                                                                                                                                                                                                                                                                  70
                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                      망
                                                                                      γQ
                                                                                                                              В
                                                                                                                                                              οy
                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                           1338
                                                                                                                                                                                                                                                                                                                                                 1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1158
                                                        1518
                                                                                                                                                                                                   1398
                                                                                                                                                                                                                                                                                                                                                                                                                       1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1038
                    496
                                                                                                                                                                  467
                                                                                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                             430
                                                                                                                                                                                                                                                                                                                                                                                                                                                        391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspGlySerTrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAsp 370
|||||||||
||||||||||
TCGGGAAGCTGGAGTAGCAGCATTCCCACATGTAAAGTTATAGATTGTGGGGCACCGCGA 1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThr 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyTyrGluLeuGluGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTACTGACAGCAGCCCACGTGTTGCGCTCACAAAGACGGGATACCATCACTCTGGTTCCA
                                                                                      ValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeu-----
                                                                                                                            GTGAGCCGAGTCCCAAAGGACAAGTGGTTTGGGAGTGGAGCTTTGCTCTCTCGAACATGG
                                                                                                                                               Thrala------AlaGlyAlaLeuLeuTyrAspAsnTrp 477
                                                                                                                                                                                                  TGTCAGCCAGTCTGTGGAAGGCCTGCTCGACCCCTGCCACCACAACAAGCGGATTATT 1397
                                                                                                                                                                                                                                                                                                       CysGluProValCysGlyLeuSerAlaArgThrThr------GlyGlyArgIleTyr 446
                                                                                                                                                                                                                                                                                                                                             TACACCTGTATGGAGAATGGATTTTGGGTCAATGATGAGCTGGGCACCGACCTCCCTACC
                                                                                                                                                                                                                                                                                                                                                                  TyrValCysGluAlaAspGlyPhcTrpThrScrScrLysGlyGluLysScrLeuProVal 429
                                                                                                                                                                                                                                                                                                                                                                                                                   CACATCGAATACTCCTGTCCTGCTTTACATTATCACCTGGAGCCCGAGCTGAATACTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysValAsn---AspGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGATTTAAATTTGTAAAGGCTGGTGATGAGGTGGAAGCCTATCAAATCGAATGCCAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAsnThrValThrIleThrPheValThrAspGluSerGlyAspHisThrGlyTrpLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspArgGluGluHisGlyProPheCysGlyLysThrLeuProHisArgIleGluThrLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTCTGTACCGCATTGAACTTGAGGAAGGTTTCGCCATCTCGTTGGAGTTTGCAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAspPheValGluSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACATTCTGCACACAGATAATCGGACCTGTAAAGTTGAGTGCAATGACAATGTATTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspLeuProSerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGAACCTGTCCAAGACCAATATTCATTCAAAGATCAAGTCCAGATCAGATGCAACACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValSerProValGlnAlaLysTyrIleLeuLysAspSerPheSerIlePheCysGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGTCATTCCTCTCAGTTGGAACTCCTTGTCCTATCCTCCATCCTCCTGCCAATGGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleHisTyrThrSerThrAlaGlnProCysProTyrProMetAlaProProAsnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCAGTAGTGTTCAGATTCTCTTCCATAGCGGCGCTCAGGGGATAACCAAGGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCGATGGCGTTTGGTCCTTTCTGTGGGGGATAAAAGTCCAGGAAAGATCGATACAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTGATTTAGAAGACCACCCAGATGTTCCCCTGTCCGTATGACTATCTGAAGATTAAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThr
-AspIleArgMetGlyThrLeuLysArg
```

1517

1277

409

1217

390

1097

350

1037

330 977

δÃ

В δõ В

밁 Qy 밁 Qy

В

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
D83276
                                   FEATURES
                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Locus
                                                                                                                                                               MEDLINE
                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2145
                                                                                                                                                                                                                                                                                                                                                                                                            SION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1629
                                                                                                                                                                                                                                                                                                                                                                            βS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACGATGCCAGTGGCAGTGACCAGGCAACACTCTCAAACATCTTACAGTATGTGAAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTTACACCAAGATTTCCAAATATGCAAGGTGGCTGGCAGATAAAATGAGCAAT 2198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTCAAGGGCTGGTGTCTTGGGGGTGGTCCTGAGAAGTGTGGCAGTAAACGGGTATATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCTAGGGGACAGTGGAGGGGCATTCATTACATATGACTCAAGCACACAGAGCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----AATGTGACAGATAACATGTTCTGCGCTGGCTTCTATGAAGGTGGGAAAGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGGTCACCCTGCAGGCTGAGTGCAAGAGCAGTTACGAGTCACGTTCTGATAGCTAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProIleValAspHisGlnLysCysThrAlaAlaTyrGlu-----LysProProTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThr------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnSerAsnIleThrProIleCysLeuPro-----ArgLysGluAlaGluSerPheMet
||| ::: |||:::|||||||| :::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACCCCAGAACTTACAATAATGATATTGCTCTGGTGAAGATGAAGGATAAGGTGTCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGCTGCGAAGAGAACT-----GTCGAGAAAATCATTCTTCACAAAGCCTTT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGAATATGTCACTATCTAGGGTCTCCATGACGTCCGACAG-----AAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATGTCTTTGTGATGCCTTTGTGTCTTCCCAGTCTTCACCAAGAGATGGAAGAA----CCA 1793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \tt LeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThr
                                                                                                                                                                                                                                                                                                                                         mannose-binding protein-associated serine protease (MASP). Xenopus laevis liver cDNA to mRNA, clone_lib:Xenopus liver cDNA clone:X43,7-4-1,race4
                                                                                                                                                                                                                                                                                                                                                                                                                 Z500 bp mRNA
Xenopus laevis mRNA for mannose-binding
protease (MASP), complete cds.
pa?276
                                                960-12, Japan (E-mail:yendo@cc. Fax:81-245-48-6760)
                                                                              Submitted (10-JAN-1996) Yuichi Endo, I
Dept. of Biochemistry; 1-Hikarigaoka,
                                                                                                              Endo,Y.
Direct Submission
                                                                                                                                                                                                                           Endo,Y., Takaha
Matsushita,M.,
                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                Two
                                                                                                                                                                                                                                                                                                                              Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                           D83276.1 GI:6429054
                                                                                                                                                                 99008558
                                                                                                                                                                                             (MASP) in vertebrates
                                                                                                                                                                                                                                                                            Xenopodinae;
                                                                                                                                                                            Immunol. 161 (9),
                                                                                                                                                (bases 1 to 2550)
                                                                                                                                                                                                                                                               (Sites
                                                                                                                                                                                                           5,Y., Takahashi,M., Nakao,M., Saiga,H., Sekine, sushita,M., Nonaka,M. and Fujita,T. Lineages of mannose-binding lectin-associated
                                                                                                                                                                                                                             Takahashi, M., N.
La, M., Nonaka, M.
/organism="Xenopus
                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----GlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspIle
                  . 2550
                                                                                                                                                                                                                                                                            Xenopus.
                                                                                                                                                                              4924-4930 (1998)
laevis"
                                                               fmu.ac.
                                                                                              Fukushima Medical College
                                                               ·ġċ,
                                                                                Fukushima-shi,
                                                                                                                                                                                                                                                                                                                                                                                                                                        protein-associated
                                                               Tel:81-245-48-2111,
                                                                                                                                                                                                              serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                         VRT 16-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     685
                                                                                Fukushima
                                                                                                                                                                                                            protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1913
                                                                                                                                                                                                                                                                                                                                                                                                                                        serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           544
               Ω
                                                                           Qy
                                                                                                              Вþ
                                                                                                                                           Qy
                                                                                                                                                                            Вþ
                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No . :
                166
                                                  560
                                                                                                                                                                              440
                                                                                                                                                                                                            106
                                                                                                                                                                                                                                                                                                            320
                                                                                                                                                                                                                                                                                                                                                                                                                                        200
                                                                                                                                              126
                                                                                                                                                                                                                                            380
                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                        46
                                                                                                                                                                                                                                                                            98
                                                                                                                                                                                                                                                                                                                                            66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   128.
```

дb QΥ Вb Qy 망 Ωy Вþ Ω 밁

```
SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                   ProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAla
                                                                                                                                                                                                                                                                                                       PheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLys
                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTTTGGTGAAATCCGGTCTCTCTTTTCCTGACTCTTATCCTAGCGACTCAGAGGTG
                                                                                                      ProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                             ATTACATCACCTAGTAATTTTCTAAGCCTCACCTTCCGGTCTGATTTCTCCAATGAGGAG
                                                                                                                                                                                                                                                                                                                                                                               ATTGCCAACTTCTGCGGGAAAGAAAGCACTGACAGAACAAGCTCCAGGTCGACAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGAACCGTCTTACCTCTGCGAGTATGATTATGCCAAGGTGGAGTCTGAGGACCAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACATGGAATATCACTGTGCCCAGAGGGTTTTCGCTAAAGCTCTATTTCATGCACTTTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        {\tt ValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArg}
                                                                             AGTGATGAAGATCTGGTTTGTGACCATCACTGCCACAATTACATTGGAGGGTTCTACTGC
                                                                                                                                                                              CGCTTCACAGGGTTTGATGCTCATTATAGCGCAATAGATATAGACGAGTGTACAGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation "MRIPLLESICLMMLSEARVIQLIDMEGEIRSLEFEDSYPSDSEV
TWNITVPRGESLKLYFMHEDLEPSYLCEYDYAKVESEDQVIANEGKESTDTEQAPGR
QIITSBANELSJTFRSDPSNEREFGEDAHYSAKIDIDCTEKSDEDLVCDHGCHYIG
GFYCSCRFGYLLHTDNRTCKVECSDNLFTQRSGLISSPDYPSYAKSSDCRYRIELEE
GFYINLHFDDNFDVEDHFEKKCPYDYLKIKTGKNEFGPLGEKSGBRKETGSNTVQIL
FHRYNSGENGGWRLSYSVTGMPCPNLHPPMNGKLEPPQSEYTFKDQVVISCNQGYRVL
KNNVEMESLQIECKKDGTWSNQIPPVQIVDCKKPKEINGFITYSTAEMRTTFQSSFN
YSCREPYYMMYPNITLYYTCDASGENTSQEIGAKIPTCQPVCGVPRFSRSALARIAGG
KTAKRGISPWIAMFSDSQNNQPFCGGALISHWIYTAAHCHHELDTEDTDLNSLKWF
ELSSFKVILGKHRTLKKDDTEQTFQAKNLILHPNKRFKFTRFDIALVELSDKAFLNDY
VMPICLPEKQVQDEHYIVSGMGKHFLKRLDSLAWFUEIPVGGTLCKTYYOTLELLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VYKNLDWIKKKSGVQY"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="MASP"
128. .2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDEMICAGFKEGGKDACSGDSGGPMVTKNELKKHWYLAGTVSWGVGCGKKIRYGMYSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protease (MASP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:8355"
/clone="X43,7-4-1,race4"
/tissue_type="liver"
/clone_lib="xenopus liver cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /protein_id="BAA86869.1"
/db_xref="GI:6429055"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="mannose-binding protein-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /evidence=experimentai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /function="protease"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="MASP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.4e-109
1492.00
59.20%
42.56%
39.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         x D83276 (1-2550)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2550
289
113
241
36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             serine
                                                                                                                             165
                                                                                                                                                                                                                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                  439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45
                              185
                                                                             619
                                                                                                                                                                              559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            259
```

```
₽
                                δÃ
                                                                        В
                                                                                                        õ
                                                                                                                                                В
                                                                                                                                                                               Ş
                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1040
                                                                            1640
                                                                                                                                                                                                                                                                                                               346
                                                                                                                                                                                                                                                                                                                                                                                                                                              340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      386 ThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     246 LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                    TTGAAATGGTTTGAACTCTCATCTTTCAAAGTAATATTAGGTAAACACAGGACTTTAAAA 1699
                                                                                                                                                                               LeuThrAlaAlaHisAlaValTyrGluGlnLys----
                                                                                                                                                                                                                     AGTGACTCCCAAAACAATCAGCCCTTCTGTGGAGGTGCACTGATAAGCAACAAATGGATT
                                                                                                                                                                                                                                                                                            GCAAGAATTGCAGGTGGGAAGACAGCCAAGAGAGGGATCTCCCCCTGGATTGCAATGTTT
                                                                                                                                                                                                                                                                                                                                                              Asn---AspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGlyVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleValAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTAGCTGCAACCAAGGGTACCGAGTGCTGAAGGATAATGTTGAGATGGAGAGTTTACAG 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAATGAATGGAAAACTTGAACCTCCTCAGTCTGAATATACATTTAAAGATCAGGTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla ::: ||||||::: ||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATTTTGATGACAACTTTGATGTTGAAGATCACCCGGAAGTCAAGTGCCCTTATGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATAATCTTTTTACCCAAAGAAGCGGGTTAATTTCAAGTCCGGACTATCCCAGTCCATAT
AAGGATGACACAGAGCAAACTTTCCAAGCTAAGAACCTCATTCTCCATCCTAACTACAAG 1759
                                  ProHisTyrThrGlnAlaTrpSerGluAla-----ValPheIleHisGluGlyTyrThr
                                                                                                                                             GTTACAGCTGCCCACTGTTTGCACCACGAACTGGATACGGAAGACACTGATTTAAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                           AACATAACACTTGTGTATACTTGTGATGCAAGCGGAGAGTGGACTAGCCAGGAGATTGGA 1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCACATTCCAGTCCAGCTTTAACTATTCCTGCAGGGAACCTTACTACATGATGGTCCCA 1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCAAAAAGCCAAAGGAGATAGAGAATGGATTCATCACCTACTCCACAGCAGAAAACCGA 1279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGAATGTCGAAAAGATGGAACATGGAGTAACCAAATTCCACCTGTTCAAATTGTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPheThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATGGAGGATGGAGATTGTCCTACTCTGTAACAGGTATGCCATGTCCAAATCTGCACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTAAAGATAAAAACTGGAAAAAACGAATTTGGCCCCACTGTGTGGAGAGAAATCGCCCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAAGAGCTCAGACTGTCGATATAGGATTGAGCTAGAAGAAGGTTTTTGTTATAAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCTGCAGATTTGGTTACCTCTTGCACACGGATAACAGAACATGCAAAGTGGAATGCAGT
                                                                                                                                                                                                                                                     LeuGlyGlyThrThr------AlaAlaGlyAlaLeuLeuTyrAspAsnTrpVal 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAAAAGAAACAGGAAGCAACACGGTTCAGATTCTCTTCCATAGGTACAATTCTGGGGAA
                                                                                                        -----HisAspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSer
                                                                                                                                                                                                                     1579
                                                                                                                                             1639
                                                                                                                                                                                                                                                                                              1519
                                                                                                                                                                                                                                                                                                                                                                                                      442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                              462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   679
                                                                                                                                                                                 489
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 25
AB009073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2144
                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1976 TATCAGACTTTGGAACTG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----AsnLeuMetTyrValAspIleProIleValAspHlsGlnLysCysThrAlaAla 601
::::||||| || || :::||||||:::|||
CCAGATTCTCTCATGGAGGTTGAAATTCCTGTGGTGGGCCAGACCTTGTGCAAGACTGTT 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAsp 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGCTGAAGAAACACTGGTATCTTGCCGGAACTGTGTCATGGGGA---GTGGGTTGTGGC 2143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGly 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGAGCATGTGATTGTCAGCGGATGGGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArg--- 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATGATTATGTGATGCCAATTTGCCTGCCGGAGAAACAAGTCCAACAA-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGAAGATAAGGTATGGGATGTATTCAGATGTTTACAAGAACCTGGACTGGATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGGAAGGAGGAAAGGATGCCTGTTCTGGTGATTCTGGAGGGCCCAATGGTCACTAAGAAC 2086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAAAACA---TTCCGTTTTGACATTGCCCTAGTGGAGCTTTCAGACAAAGCTTTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3229 bp mRNA Cyprinus carpio mRNA for mannose-binding protease, complete cds. AB009073
                                                                                                                                                                                                                                                  Direct Submission
Submitted (21-NOV-1997) Yuichi Endo, Fukushima Medical Colle Submitted (21-NOV-1997) Yuichi Endo, Fukushima Medical Colle Dept. of Biochemistry; 1-Hikarigaoka, Fukushima 9 Dept. of Biochemistry; 1-Hikarigaoka, Fukushima 9 Japan (E-mail:yendo@cc.fmu.ac.jp, Tel:0245-48-2111(ex.2233),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Cyprinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cyprinus carpio
                                                                                                                                                                                                                                                                                                                                                                                                                  Matsushita,M., Nonaka,M. and Fujita,T.
Two lineages of mannose-binding lectin-associated serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MASP; mannose-binding protein-associated serine purprinus carpio adult liver tissue_lib:ZAPII cDNA
                                                                                                                                                                                                                                                                                                                                         Endo, Y.
                                                                                                                                                                                                                                                                                                                                                                              99008558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Endo, Y.,
                                                                                                                                                                                                                                          Fax:0245-48-6760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AB009073.1 GI:6407537
                                                                                                                                                                                                                                                                                                                                                                                            Immunol. 161 (9),
                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 3229)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Takahashi,M., Nakao,M., Saiga,H.,
ta,M., Nonaka,M. and Fujita,T.
                                                                         /tissue_type="liver"
/dev_stage="adult"
/tissue_lib="ZAPII cDNA"
/codon_start=1
/product="mannose-binding
                                                             16.
                                                                                                                                      /clone="2A6"
                                                                                                                                                      /organism="Cyprinus carpio"
/db_xref="taxon:7962"
                                      /note="MASP"
                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----TTAGTGACTGATGAAATGATATGTGCCGGATTC 2026
                                                                                                                                                                                                                                                                                                                                                                                              4924-4930 (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----AAGCACTTCCTGAAACGATTA 1915
protein-associated serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear VRT 14-N
protein-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sekine, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VRT 14-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2200
                                                                                                                                                                                                                                                                                                                                                                                                                                   protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            564
                                                                                                                                                                                                                                                                          lege,
960-12,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             serine
```

```
Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686) x AB009073 (1-3229)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            polyA_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNT
       215
                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match:
                                                                                                    195
                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 TTTCCTGAATCCTATCCAAAAGAGATAGATCTACAGTGGAATATAACTGTACCAGATGGA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ω
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 ProLysTrpProGlu-----------ProValPheGlyArgLeuAlaSerProGly 34
                                                                                                                                                                                                                                            HisCysHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHis 174
                                                                                                                                               TCTGACAACAGAACTTGCAAAGTGGAGTGTAATGAAAGCATGTACACGGAGCGCTCTGGA
                                                                                                                                                                                                                                                                                                                                                                       AlaAlaGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHis 154
                                                                             GluLeuSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyr 134
::: ||||||||||||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspPheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSer 94
IleSerLeuGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGlu 234
                                                  GAGATCACCAGTGCTGATTTTCCTGAACCGTACCCCAAAACCTCTGACTGCACATACCAC 660
                                                                                                                                                                           ArgAsnLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGly 194
                                                                                                                                                                                                                                                                                                                                           AGTGCGGCTGATGTAGATGAATGCAGAGACAGAAATGATCACAGACAAGACCTTCATCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGCATTCCGTTCAGACTTTTCTAATGAGGAACGCTACTCTGGCTTTGAGGCTCACTTT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACAGACACAGAACGGGTTCCTGCTGACAATGTCATCACGTCCCCCAGGAACGTGCTCAGT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCTTGTGGACTCAAGTCATCCACCTCACAGACATATATGGGACCATCAAGTCTCCAAAC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EVAKV"
3229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGGFYCSCRYGFLLHSDNRTCKVECNESMYTERSGEITSADFPEPYPKTSDCTYHIEL
EEGFQTLEFDDFBLIDHPEVTCPYDEIKIHAGDKVFGFPCGSPGKLQTGSNIVN
ILFHSDSTGENLGWKLTYTSTGSECSPLAAPLNGHLEPLJSNYIFKDHITLTCDPPYS
LRQGDKEFEHYQIECQRDGKWSSDVPLCKMVDCGPVDVVLGEVLFESFGNSTVFGSRI
QYSCRDSPQVNNTYTCHQSGEWVSEDGTPLPTCLPGDFETTLSVNAESQLPTPLTSTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /protein_id="BAA86866.1"
/db_xref="G1:6407538"
/db_xref="G1:6407538"
/translation="meltrylvilaQCVWPLWTQVIHLTDIYGTIKSPNFPESYPKEI
/translation="meltrylvilaQCVWPLWTQVILKVYSDSEELAVFCGKENTDTERVP
DLQWMITVPDGYQIRLVFMHFDLEPSYLCEYDYLKVYSDSEELAVFCGKENTDTERVP
ADNVITSPRNVLSVAFRSDFSNEERYSGFEAHFSAADVDECRDRNDHRQDLHHFCHNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="25 a nucleotides"
712 c 692 g 936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YNNDIALIKLSQEVVLSALIQPVCLPRPGVKGHTLMPLPNTLGIVAGWGINTANTSAS
TSGLTSDLGTVSELLQYVKLPIVPQDECEASYASRSVNYNITSNMFCAGFYEGGQDTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LACGEQSQLFPAQQKRIVGGRTASPGLFPWQVLLSVEDVSRVPEDRWFGSGALLSSTW
VLTAAHVLRSHRRDFSVVPVASEHIRVHLGLTDIRDKHLATNRSVAKVILHPQFDPQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LGDSGGAFVTQDARSGRWVAQGLVSWGGPEECGSQRVYGVYTRVANYIHWLHRHMDGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.08e-107
1462.00
55.00%
39.05%
38.90%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3229
289
118
231
102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 others
                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                              480
```

DB

В δÃ 밁 δõ В Ş DЬ Ω

Š В QΥ Дb QY Вġ Qy DЪ Qγ 망 δÃ

528GlyPheAspAsnAspIleAlaLeuIle 536	Qy
TCCACTTGGGCCTCACAGATATACGGGATAAGCACCTGGC	Db
HisGluGlyTyrThrHisAsp	Qy
1603TCTGAACACATCCGA 1617	DЪ
499 MetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPhe 518	Qy
	Db 45
03 ICCCG10ICCCAGAGGACCGC11G0II1GGCAGCGGCGCICICCICCICCICCACIIGGGII 10	
AlaGlyAlaLeuLeuTyrAspAsnTrpVal 478	} &
GAGAACAGCATCTCCCGGTCTGTTCCCCTGGCAGGTTCTGCT	Db
nLysAlaLysProGlyAspPheProTrpGlnValLeuI ·	Qy
GAGCAATCACAGCTCTTCCCAGCCCAGCAGAAGCGAATCGTTGG	DЪ
lyLeuSerAlaArgThrThrGlyGlyArgIleTyI	Qy
1303 TTCGAAACAACTTTGAGTGTCAATGCGGAATCTCAGCTCCCTACTCCACTAACAAGCACT 1362	Db
432 432	Qy
GAATGGGTGAGTGAGGACGGGACACCTCTGCCCAC	Db
erLysGlyGluLysSerLeuProValCysGluPr	Qy
98 AGCTGCAGAGAGTCTCCCCAGGTCAACAACACTTACACCTGTCATCAG 12	Db
95 SerCysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCys	Qу
	DЬ
lyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTy	Qy
 	Db
ProAlaCysSerIleValAspCysGlyProProAspAspLe	Qy
 	DЬ
lnGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerT	Qy
961 CAGTCTAACTACATCTTCAAAGATCACATTACGCTGACCTGTGACCCTGGATACTCACTG 1020	Db
lnAlaLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrC	Qy
901 TCCACCGGTTCTGAATGCTCTCCTCTTGCGGCACCCCTTAATGGACACCTGGAGCCTCTG 960	Db
erThrAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProVa	Qу
GCACTGGAGAGAATCTTGGCTGGAAACTCACTTACAC	Db
heValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTy	Qy
GCAGTCACCAGGGAAGATCCAGACAGGAAG	Db
lyProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsr	Qy
	Db
35 ¶hrHisDroCluThrLeuCvsDroTvrAspDheLeuLvsIleGlnThrAspAraGluGlu 25	0
	Дb

Sear	Ф	Qy	Ф	Qy	Db	çy		ķ	Db	Qy	Db	Qy	DЬ	Qy	Db	Qy	рь
ch com	2155	660	2095	641	2035	621	978	601	1918	581	1858	574	1798	556	1738	537	1678
Search completed: January 23, 2003, 23:41:06	TETEGCAGTCAGAGGGTGTATGGGGTGTACACTCGGGTGGCCAACTACATCCACTGGCTA 2214	CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle 679	GATGCCCGCAGTGGGAGATGGGTGGCACAAGGACTGGTGTCCTGGGGCCGGGCCAGAGGAA 2154	AspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn 659	TTCTACGAGGCGGTCAGGACACCTGTTTGGGGGGACAGTGGGGGGAGCGTTTGTCACTCAG 2094	euGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu 640	AGTTATGCATCACGCTCCGTCAACTACAACATCACCAGCAATATGTTCTGCGCTGGC 2034	laTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGly 620	GTCTCCGAGCTGCTCCAGTATGTGAAACTCCCCGATTGTGCCTCAGGACGAATGTGAAGCT 1977	euAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAla 600	GGCATCAACACAGCCAACACTTCTGCTTCCACCAGTGGCTTGACCTCGGATTTAGGCACC 1917	GlyLeuThrGlnArgGlyPhe 580	GGTGTGAAAGGTCATACCCTGATGCCTCTGCCCAACACTGGGTATAGTGGCTGGTTGG 1857	LysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrp 573	AAACTCAGCCAGGAGGTGGTGTCTGCATTAATACAACCCGTGTGTCTACCAAGGCCT 1797	ysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArg 555	1678 AAAGTCATCCTCCATCCTCAGTTTGATCCTCAAAACTATAACAATGACATTGCTCTGATT 1737

Search completed: January 23, 2003, 23:41:06 Job time: 4205 secs

THIS PAGE BLANK (USPTO)

THIS PAGE BLANK (USPTO)

92:

```
MITTIMUM
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
       3065.5
3054.5
3054.5
2901.5
2802.5
2402.5
1751
1634.5
1603.5
1515.5
1515.5
1515.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB seq length: 0
DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-874-198-2
3758
1 MRLLTLLGLLCGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 January 23, 2003, 22:04:11 ; Search time 91 Seconds (without alignments) 1553.278 Million cell updates/sec
                                                                                                                                                                                                                                                                                                            Match
                                                                                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           671580 seqs, 206047115 residues
       MRLLTLLGLLCGSVATPLGP...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sp_phage:*
sp_plant:*
sp_rotent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sp_invertebrate:*
sp_mammal:*
sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_organelle:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp_archea:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp_human:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp_fungi:*
                                                                                                                                                                                                                                                                                                              Length
       Gapext
                                                                                                                                                                                                                                                                                                              В
       Q9QXD2
Q96RS4
Q920S0
Q9JJS9
Q9QX91
Q9QX91
                                                                                                                              Q96QG4
Q9QX85
                                                                                                                                                                                                  Q9JJS8
Q9QX84
Q9JJP3
                                                                                                                                                                                                                                                                                                              Ħ
                                                                                                                                                                                                                                                      Q91WP0
                                                                                                                                                                 Q9QX90
Q9PVY4
                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .....GVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      671580
O91wp0 mus musculu
O92338 mus musculu
O92338 mus musculu
O93j38 rattus norv
O9qx84 rattus norv
O9jpy4 rattus norv
O9py4 xenopus lae
O96q94 homo sapien
O9qx85 rattus norv
O9qx85 rattus norv
O9qx86 rattus norv
O9qx86 mus musculu
O96rs4 homo sapien
O920s0 mus musculu
O96rs4 rattus norv
O9qx91 rattus norv
                                                                                                                                                                                                                                                                                                          Description
   RESULT
Q91WP0
ID Q9
AC Q9
DT 01
                                                                                                                                                                                                                                                        Q91WPO PRELIMINARY: PRT; 685 AA.
Q91WPO;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
51milar to mannan-binding lectin serine protease 2.
   Mus musculus (Mouse)
                                                                                                                                                                                                                                                    1462
11384
1381
1381
11381
11237
1211
11217
11218
11158
1097.5
1002
993.5
993.5
993.7
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
993.9
                                                                                                                                                                                                                                                    338.9

336.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

337.8

33
                                                                                                                                                                                                                                                    3 Q9DER7
Q95ND7
Q95ND7
3 O57382
Q96S7
Q90QS4
Q90QS4
Q90QS4
Q90Q00
Q90Q00
Q90Q00
Q976L7
Q9Y6L7
Q9YMM6
Q9WM6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9PYX3
Q9PX16
Q9
                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                               Q91925 xenopus lae
Q96192 homo sapien
P91972 aplysia cal
Q9der7 gallus gall
Q9der7 gallus gall
Q14316 homo sapien
Q95nd7 pan troglod
O57382 xenopus lae
Q60574 mus caroli
Q43897 homo sapien
Q9ngs4 homo sapien
Q9ngs4 homo sapien
Q91xc4 mus musculu
Q51646 mus musculu
Q501646 mos sapien
Q9uq00 homo sapien
Q9uq00 homo sapien
Q9y617 homo sapien
Q9y617 homo sapien
Q9y618 bufo japoni
Q9w7m6 mus musculu
Q643927 mus sp. hap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oppry3 cyprinus ca Opprs I numbertra ja Opet60 mus musculu Opet60 rattus norv Opdgc1 cyprinus ca Opdgc2 cyprinus ca Opdgc2 cyprinus ca Opdgc2 cyprinus ca Opdgc3 cyprinus ca Opdgc3 cyprinus ca Opdgc3 rattus norv Opet60 mus musculu Opex60 rattus norv Opex60 ratt
```

Result No.

```
DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OC OC REPORTED TO THE REPORT OF THE POCK O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000561; EGF-1kme...

R InterPro; IPR001254; Ser_protease_Try.

R InterPro; IPR001254; Ser_protease_Try.

R InterPro; IPR000436; Sushi_SCR_CCP.

R InterPro; IPR000436; Sushi_SCR_CCP.

R Pfam; PF00084; Sushi; 2.

R Pfam; PF00084; Sushi; 1.

SMART; SM00181; EGF; 1.

PROSITE; PS001180; CUB; 2.

PROSITE; PS01186; EGF_2; UNKNOWN_1.

PROSITE; PS01186; EGF_CA; UNKNOWN_1.

PROSITE; PS01187; EGF_CA; UNKNOWN_1.

R PROSITE; PS0125; TRKPSIN_DOM; 1.

R PROSITE; PS0125; TRKPSIN_SER; UNKNOWN_1.

R PROSITE; PS0125; TRKPSIN_SER; UNKNOWN_1.

R PROSITE; PS0125; TRKPSIN_SER; UNKNOWN_1.

R PROSITE; PS0126; TRKPSIN_SER; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Mammalia; Eutheria; NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (SEP-2001) to the EMBL; BC013893; AAH13893.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Strausberg R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS; S01.229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000859;
540
                                                         540
                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                480
                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match
Local Similarity
es 560; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Н
                        NKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCT
                                                                                                          SKGEKSLPVCGFVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTT-AAGALLYDNWVL
                                                                                                                                                                                                                                                                                                                                          CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
                                                                                                                                                                                                                             SKGEKLPPVCEPVCGLSTHTIGGRIVGGQPAKPGDFPWQVLLLGQTTAAAGALIHDNWVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SALCSGQVFTGRSGYLSSPEYPQPYPKLSSCTYSIRLEDGFSVILDFVESFDVETHPEAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YSNEKPETGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
NKVTINGSIMPVCLPRKEAASLMRTDFTGTVAGWGLTQKGLLARNLMFVDIPIADHQKCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSNEKPFTGFEAFYAAEDVDECRVSLGDSVPCDHYCHNYLGGYYCSCRAGYVLHQNKHTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FTHFDLELSYRCEYDFVKLSSGTKVLATLCGQESTDTEQAPGNDTFYSLGPSLKVTFHSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MRLLIFLGLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYADHQDRSWTLTAPPGYRLRLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR000152; Asx_hydroxyl.
IPR000859; CUB_domain.
IPR000561; EGF-like.
IPR001881; EGF_Ca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 3065.5; DB 11; Length Pred. No. 7.2e-255; 9; Mismatches 75; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                          539
                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                      479
                                                                                                                                                                                                                                                                                                                                                   419
                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
```

Q

В

Ş

Qy

QY

Qy В Qy В Qγ Вb Qy В Qy

밁

ω

```
RESULT
Q9Z338
Š
                        밁
                                            Qγ
                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                              Query Match
Best Local 9
                                                                     Matches
                                                                                                                          Pfam; pF00431; CUB; 2.

Pfam; pF00084; sushi; 2.

Pfam; pF00089; trypsin; 1.

PRINTS; pR00722; CHYMOTRYPSIN.

SMART; SM00032; CCP; 2.

SMART; SM00042; CUB; 2.

SMART; SM00179; EGF_CA; 1.

SMART; SM00179; EGF_CA; 1.

SMART; SM0010; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS00110; EGF_2; 1.

PROSITE; PS01180; EGF_2; 1.

PROSITE; PS01180; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

Calcium-binding; EGF-1ike domain; Glycoprote; Protease; Repeat; Serine protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9Z338
Q9Z338;
Q9Z338;
01-MAY-1999
01-MAY-1999
01-JUN-2002
                                                                                                                  Protease;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AB009459
HSSP; P00763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Immunol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endo Y., Ta
Nonaka M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=BALB/C; TISSUE=LIVER; MEDLINE=99008558; PubMed=9794427;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mannose-binding MASP2 OR MASP-2
                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                             MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:1330832; Masp2
                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Immunol. 161:4924-4930(1998).
-!- SIMILARITY: CONTAINS 2 CUB DOMAINS.
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MASP) in vertebrates.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Two lineages of mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  659
 61
                                              ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRYPSIN FAMILY
                                   MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MRLLIFLGLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYADHQDRSWTLTAPPGYRLRLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAADQYGVYTKVINYIPWIENIISNF
                                                                                                                                                                                                                                                                                                                                                                                                                                   AB009459;
                                                                                                                                                                                                                                                                                                                o; IPR000152; Asx_hydroxy1.
o; IPR001314; Chymotrypsin.
o; IPR000859; CUB_domain.
o; IPR000861; EGF-like.
o; IPR001881; EGF_Ca.
o; IPR001254; Ser_protease_To
o; IPR000436; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                             S01.229;
                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Takahashi M., Nakao M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SY-2.
IS (Mouse).
Metazoa; Chordata; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel. 10, Created)
(TrEMBLrel. 10, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                          1DPO.
                                                                                                                   AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                   BAA34674.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lectin associated serine
                                                                                81.5%;
81.2%;
                                                                                                                  rine protease
75490 MW; 457
                                                                                                                                                                                                                                                                                                                 Ser_protease_Try.
Sushi_SCR_CCP.
                                                                     50;
                                                                                 Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                   4571E1AE0703A70F CRC64;
                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saiga H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       686
                                                                                                                                         Glycoprotein; Hydrolase;
                                                                                 No.
                                                                                            3062.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         685
                                                                                 1.3e-254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sekine
                                                                                           DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            S1;
                                                                     76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             н.,
                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        serine
                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matsushita
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protease
                                                                                            685;
                                                                                                                                          Lectin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AS
                                                                     ω
--
                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3
                                              60
                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     659
```

```
RESULT
Q9JJSB
TD Q9JJSB;
Q9JJSB;
                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
-!- SIMLLANLLY.
TRYPSIN FAMILY.
EMBL; AJ277747; CAB90832.1; -
HSSP; P00763; 1DPO.
MEROPS; S01.229; -
InterPro; IPR000152; Asx_hyd
InterPro; IPR001314; Chymotr
ThterPro; IPR000859; CUB_dor
                                                                                                                                                                                                                                                                                       (Fragment).
MASP-2.
                                                                                                     "Interaction of mannose-binding protein with associated proteases: Effects of naturally occuring mutations.";
J. Biol. Chem. 275:30962-30969(2000)
-!- SIMILARITY: CONTAINS 2 CUB DOMAINS.
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1; ALSO KNOWN AND ADMINISTRATION OF THE PROPERTY OF TH
                                                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=20469449; PubMed=10913141;
Wallis R., Dodd R.B.;
                                                                                                                                                                                                                              Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                            01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
Mannose-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                       659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTT-AAGALLYDNWVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CSIVDCGPPDDLPSGRVEXITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CPYDSLKIQTDKGEHGPFCGKTLPPRIETDSHKVTITFATDESGNHTGWKIHYTSTARPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAAGQYGVYTKVINY I PWNENIISNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CSIIDCGPPDDLPNGHVDYITGPQVTTYKAVIQYSCEETFYTMSSN-GKYVCEADGFWTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FTHFDLELSYRCEYDFVKLSSGTKVLATLCGQESTDTEQAPGNDTFYSLGPSLKVTFHSD
                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
              Asx_hydroxyl.
Chymotrypsin.
CUB_domain.

    Created)
    Last sequence update)
    Last annotation update)
    associated serine protease-2

                                                                                                                                                                                                                                              Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               686
                                                                                                                                                                                                                                                                                                                                                                                  678
                                                                                                                                                                                                                                                                                                                                                                                  AA
                                                                                                                                                                                                                                              Euteleostomi;
Murinae; Rat
                                                                                                           KNOWN
                                                                                                                                                                                                                                                                                                               precursor
                                                                                                           AS
                                                                                                           THE
                                                                                                                                                                                                                                               Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                          멍
                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
              g
                                δÃ
                                                                В
                                                                                        Qy
                                                                                                                       밁
                                                                                                                                           Ş
                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DR TTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 547; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nterPro;
              600
                                                                  540
                                                                                                                       480
                                                                                                                                               488
                                                                                                                                                                           420
                                                                                                                                                                                                     428
                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                         368
                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                             308
                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                 248
                                                                                                                                                                                                                                                                                                                                                                                                                        188
                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             128
                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     œ
                                                                                                                                                                                                                                                                                                                                                                                                                                               PRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYG
                                                               GLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLE
                                                                                                                                                                          PVCKPVCGLSTHTSGGRIIGGQPAKPGDFPWQVLLLGETTAAGALIHDDWVLTAAHAVYG
                                                                                                                                                                                       PVCEPVCGLSARTTGGRIYGGQKAKPGDEPWQVLILGGTTAAGALLYDNWVLTAAHAVYE
                                                                                                                                                                                                                              PPDDLPNGHVDYITGPEVTTYKAVIQYSCEETFYTMSSN-GKYVCEADGFWTSSKGEKSL
                                                                                                                                                                                                                                            PPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLLWSLVATLLGSKWPEPVFGRLVSPGFPEKYGNHQDRSWTLTAPPGFRLRLYFTHFNLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPRO01881;
; IPRO01254;
; IPRO00436;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR000561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13 A 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12
678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    74734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.3%;
80.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MW;
```

667 599 607 547

487 419 427

360 367 300 307

479

240 247 180 187 127

```
Pfam; PF00431; CUB; 2.

Pfam; PF00431; CUB; 2.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR0072; CYYMOTRYPSIN.

SMART; SM00032; CCP; 2.

SMART; SM00042; CUB; 2.

SMART; SM00070; EGF_CA; 1.

SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS001010; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

Calcium-binding; EGF-1ike domain; Glycoprote
                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGF_Ca.
Ser_protease_Try.
Sushi_SCR_CCP.
         54; Mismatches
                          Score 3054.5;
Pred. No. 6.2
                                                                                             POTENTIAL.
MANNOSE-BINDING
PROTEASE-2.
                                                                                16680E4A9ADCCC05
                                                                                                                                                                                   Glycoprotein;
5; DB 11;
6.2e-254;
77;
                                                                                                                 PROTEIN
                                                                              CRC64;
                                                                                                                                                                                      Hydrolase;
         Indels
                                         Length
                                                                                                                 ASSOCIATED
                                                                                                                                                                                      Protease;
         ۲.
       Gaps
         ۲
```

P Q

099

VYTKVINYIPWIENIISDF ||||| ||||||||::| VYTKVTNYIPWIENIINNF

```
RESULT
Q9QX84
             Qy
                                          В
                                                                 20
                                                                                                                                                        DR DR DR DR COR
                                                                                                                                                                                                                                                                                                                                                                    Query Ma
Best Loc
Matches
                                                                                                                                                                                          Interpro; IPRO04825; Ins/IGF/relax.
Interpro; IPRO04825; Ins/IGF/relax.
Interpro; IPRO0436; Sushi_SCR_CCP.
Interpro; IPRO0436; Sushi_SCR_CCP.
Interpro; IPRO0431; CUB; 2.
Pfam; PF00084; sushi; 2.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00727; INSULINB.
PRINTS; PR00727; INSULINB.
PRINTS; SM00042; CCP; 2.
SMART; SM00042; CCP; 2.
SMART; SM00042; CUB; 2.
SMART; SM000402; Tryp_SPc; 1.
PROSITE; PS001180; CUB; 2.
PROSITE; PS01180; CUB; 2.
PROSITE; PS01180; EGF_CA; 1.
PROSITE; PS01180; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR001314; (InterPro; IPR000859; (InterPro; IPR000561; InterPro; IPR001881; InterPro; IPR001881; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-20054576; PubMed-10586086; Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.; Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.; "The rat and mouse homologues of MASF-2 and MAp19, compumnannan-binding lectin activation pathway of complement. J. Immunol. 163:6848-6859(1999).

-i- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

-i- SUBCELLULAR LOCATION: OF COMAINS.

-i- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, 01-MAY-2000 (TrEMBLrel. 13, 01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN-FISHER 344;
MEDLINE-20054576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
MCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MASP-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9QX84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9QX84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000152;
               103
                                                                     43
                                                                                                             Local
                                           _
                                                                                                                             Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRYPSIN FAMILY
                                       KDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y18572; CAB65389.1;
P00763; 1DPO.
S; S01.229; -
                                                                                                 520;
                                                                                                                                                                                 protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein (Fragment).
                                                                                                             Similarity
                                                                                                                                                        643
                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
=
                                                                                                                                                        AA;
<u>:</u>
                                                                                                                                                     70976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Asx_hydroxyl.
Chymotrypsin.
CUB_domain.
EGF-like.
                                                                                                           77.2%;
80.7%;
Ins/IGF/relax.
Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGF_Ca
                                                                                                                                                       WW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .'
                                                                                              52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last
                                                                                             Score 2901.5; DB 11;
Pred. No. 8.4e-241;
2; Mismatches 71; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Eurercourse (Sciurognathi; Muridae; Murinae; Ratt)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                       8164B9C0BF688CBB
                                                                                                                                                                                                                                                                               UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence
                                                                                                                                                                                              Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
••
                                                                                                                                                       CRC64;
::
                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SO KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           components
                                                                                                                          Length
= := := :=
                                                                                                                           643;
                                                                                                                                                                                               Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ^{\mathrm{AS}}
                                                                                              0f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE
                                                                                              Gaps
                                          60
                                                                    102
                                                                                              1;
```

```
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                          MEROPS; S01.229; ...
InterPro; IPR000152; A
InterPro; IPR001314; C
InterPro; IPR000859; C
                                                                                                                                                                                                                                                                                    Q9JJP3;
Q9JJP3;
Q1-QCT-2000
Q1-QCT-2000
Q1-JUN-2002
MASP-2 prote
                    InterPro;
InterPro;
                                                                                              EMBL;
                                                                                                                   Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.;
"The rat and mouse homologues of MASP-2 and MAp19,
mannan-binding lectin activation pathway of complen
J. Immunol. 163.6848-6859(1999).
-!- SIMILARITY: CONTAINS 1 CUB DOMAIN.
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1; ALS
                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=FISHER 344;
MEDLINE=20054576; PubMed=10586086;
                                                                                      HSSP;
                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
                                                                                                                                                                                                                                            Mammalia;
                                                                                                                                                                                                                                                                           MASP-2.
           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                      643
                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                               583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                               TRYPSIN FAMILY.
L; Y18564; CAB70973.1;
                                                                                                                                                                                                                                                                                                                                                                                                             ETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                        RNLMFVDIPIVDHOKCATAYTKQPYPGAKVTVNMLCAGLDRGGKDSCRGDSGGALVFLDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                     RNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ETQRWFVGGIVSWGSINCGGSEQYGVYTKVTNYIPWIENIINNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YTHGAGFDNDIALIKLKNKYTINRNIMPICLPRKEAASLMKTDFVGTVAGWGLTQKGFLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MSSN-GKYVCEADGFWTSSKGEKSLPVCKPVCGLSTHTSGGRIIGGQPAKPGDFPWQVLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SFTAVCQKDGSWDRPIPECSIIDCGPPDDLPNGHVDYITGPEVTTYKAVIQYSCEETFYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SGNHTGWKIHYTSTAQPCPDPTAPPNGHISPVQATYVLKDSFSVFCKTGFELLQGSVPLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NDTFYSLGPSLKVTFHSDYSNEKPFTGFEAFYAAEDVDECRTSLGDSVPCDHYCHNYLGG
                                                                                      P00763; 1DPO.
                                                                                                                                                                                                                                                                                     protein
                    IPR000561;
IPR001881;
                                                                                                                                                                                                                                            Eutheria;
                                                                                                                                                                                                                                                                                               O (TrEMBLrel. 15,
O (TrEMBLrel. 15,
2 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                          Asx_hydroxyl.
Chymotrypsin.
CUB_domain.
                    EGF-like.
EGF_Ca.
Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                               Last sequence up
                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                            623
                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                      complement
                                                                                                                                                                                                                                                                                                 update)
                                                                                                                      ALSO
                                                                                                                                                                                                                                                                                                                                                                                                  643
                                                                                                                                                                                                                                                                                                                                                                                                                      989
                                                                                                                                                                 components
                                                                                                                      KNOWN
                                                                                                                      AS
                                                                                                                                                                                                                                             Rattus
                                                                                                                                                                  of.
                                                                                                                                                                                                                                                                                                                                                                                                                                            599
                                                                                                                                                                                                                                                                                                                                                                                                                                                               642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
```

AS

ō,

Rattus

```
RESULT 6
Q9QX90
ID Q9QX90;
AC Q9QX90;
DT 01-MAY-2000
                                                                                       Вb
                                                                                                     δδ
                                                                                                                                     В
                                                                                                                                                       δ
                                                                                                                                                                                      В
                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00431; CUB; 1.
Pfam; PF00089; sushi; 2.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
SMART; SM00032; CCP; 2.
SMART; SM00042; CUB; 1.
SMART; SM00079; EGF_CA; 1.
SMART; SM00020; Tryp_SPC; 1.
SMART; SM00010; ASX_HYDROXYL; UNKN PROSITE; PS01180; CUB; 2.
PROSITE; PS01180; EGF_2; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
Calcium-binding; EGF-11ke domain; G1
Serine procease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Serine pr
NON_TER
SEQUENCE
                                                                                       600
                                                                                                                                      540
                                                                                                                                                                                      480
                                                                                                                                                                                                              543
                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183
                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 y Match 74.6%;
Local Similarity 80.6%;
hes 503; Conservative 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1
                                                                                    HEDLELSHLCEYDFYKLSSGAKYLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS
                                                                                                                                                  EKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGE
                                                                                                                                                                                                                                 LCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TKQPYPGAKVTVNMLCAGLDRGGKDSCRGDSGGALVFLDNETQRWFVGGIVSWGSINCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LCSGQVFTGRSGFLSSPEYPQPYPKLSSCAYNIRLEEGFSITLDFVESFDVEMHPEAQCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   623
                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1
68568
 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50;
 Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2802.5; DB 11; Length Pred. No. 2.7e-232; O; Mismatches 70; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 233AF39E8906624F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glycoprotein; Hydrolase;
                          541
                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                        482
                                                                                                                                                                                                                                    479
                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122
                                                                                                                                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                           362
                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242
                                                                               Qy
                                                                                                         Вb
                                                                                                                             δÃ
                                                                                                                                                          B
                                                                                                                                                                                 QΥ
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                           В
                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

C STRAIN-FISHER 344;

X MEDLINE-2004576; PubMed=10586086;

AMEDLINE-2004576; PubMed=10586086;

Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.;

The rat and mouse homologues of MASP-2 and MApl9, componer
mannan-binding lectin activation pathway of complement.";

J. Immunol. 163:6848-6859(1999).

-i- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1; ALSO KNOWN

TRYSIN FAMILY.

EMBL; Y18566; CA865383.1; -.

REMBL; Y18566; CA865383.1; -.

REMBL; Y18566; CA865383.1; -.

REROPS; S01.229; -.

InterPro; IPR001314; Chymotrypsin.

InterPro; IPR001314; Chymotrypsin.

InterPro; IPR001314; Ser_protease_Try.

InterPro; IPR001314; Ser_protease_Try.

RINTERPRO; IPR001254; Ser_protease_Try.

RINTERPRO; IPR001254; Ser_protease_Try.

RINTERPRO; IPR001254; Ser_protease_Try.

REART; SM00023; CCUB; 1.

RP FARM; PF00084; SUShi; 2.

RP FARM; PF00084; SUShi; 2.

RR PART; SM00012; CCUB; 1.

RR PART; SM00012; CCUB; 1.

RR SMART; SM00121; CCUB; 1.

RR SMART; SM00121; CUB; 1.

RR SMART; SM00121; EGF; 1.

RR PROSITE; PS01180; CUB; 1.

RR PROSITE; PS01180; CUB; 1.

RR PROSITE; PS01186; EGF; 1.

RR PROSITE; PS01186; EGF; 1.

RR PROSITE; PS01186; EGF; 1.

RR PROSITE; PS01180; CUB; 1.

RR PROSITE; PS0118
                                                                                                                                                                                                                                                                                                       Query Match 64.6
Best Local Similarity 80.4
Matches 434; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-2000 (TrEMBI
01-JUN-2002 (TrEMBI
MASP-2 protein (Fra
MASP-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10116;
                                                                                                                                                           123
                                                                                                                                                                                                                                                                                 147
            302
                                  447
                                                           243
                                                                                                           183
                                                                                                                                 327
                                                                                                                                                                                                                                   207
                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                          ω
          TYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSI
                                                                                                         (TrEMBLrel. 13, (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    s (Rat).
Da; Chordata;
ia; Rodentia;
                                                                                                                                                                                                                                                                                                                     64.6%;
                                                                                                                                                                                                                                                                                                        43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                        Score 2427.5; DB 1
Pred. No. 4e-200;
3; Mismatches 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                DB 11;
                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KNOWN
```

541;

1:

Gaps

1:

LSARTTGGRIY

386 182 122 266 62

506 301 446

```
Ş
                                                                          Pfam; PRO0084; sushi; 2.

Pfam; PF00084; sushi; 2.

Pfam; PF00084; sushi; 1.

DR Pfam; PF00089; trypsin; 1.

DR SMART; SM00072; CHYMOTRYPSIN.

DR SMART; SM00042; CUB; 2.

DR SMART; SM000179; EGF_CA; 1.

DR SMART; SM000179; EGF_CA; 1.

DR PROSITE; PS01180; CUB; 2.

DR PROSITE; PS01180; CUB; 2.

NR PROSITE; PS01180; EGF_CA; 1.

NR PROSITE; PS01187; EGF_CA; 1.

NR PROSITE; PS01187; EGF_CA; 1.

NR PROSITE; PS01187; EGF_CA; 1.

NR PROSITE; PS00135; TRYPSIN_DOM; 1.

NR PROSITE; PS00135; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.

NR PROSITE; PS00135; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.

NR PROSITE; PS00135; TRYPSIN_SER; 1.

NR PROSITE; PS00135; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.

NR PROSITE; PS00135; TRYPSIN_SER; 1.
                                                                                I S F F E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
Q9PVY4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                   Query Match
Best Local S
Matches 343
                                                                                                                                                                                                                                                                         InterPro; IPR000152; A
InterPro; IPR001314; C
InterPro; IPR000859; C
InterPro; IPR000561; E
InterPro; IPR001881; E
InterPro; IPR001254; S
InterPro; IPR000436; S
Pfam; PP00431; CUB; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Vannose-binding protein-associated serine protease 2
Kenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                     MEROPS; S01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   επαο Υ., Takahashi M., Nakao
Nonaka M., Fujita T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=99008558; PubMed=9794427;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amphibia; Batrachia; Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9PVY4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9PVY4
                                                                                                                                                                                                                                                                                                                                                                                                               -!- SIMILARITY: CONTAINS
-!- SIMILARITY: BELONGS T
                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MASP) in vertebrates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Two lineages of mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                567
                                   Local Similarity
mes 343; Conserv
              6
                                                                                                                                                                                                                                                                                                                                                                                                      TRYPSIN FAMILY
  LLGLLCGSVATPLGPKWPE--PVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LIYTQAWPEAVFIHEGYTHGAGFDNDIALIKLKNKVTINRNIMPICLPRKEAASLMKTDF
                                                                                                                                                                                                                                                                                                                                                                               P00763;
                                                                                                                                                                                                                                                                                                                                                                                         AB009072; BAA86865.1;
                                                                                                                                                                                                                                                                                                                                                                                                              161:4924-4930(1998).
ITY: CONTAINS 2 CUB DOMAINS
ITY: BELONGS TO PEPTIDASE FA
                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                               IDPO.
                                                                                                                                                                                                                                                                                                                                 Asx_hydroxyl.
Chymotrypsin.
CUB_domain.
                                              48.3%;
49.7%;
                                                                                                                                                                                                                                                                                       Sushi_SCR_CCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Anura; Mesobatrachia; Pipoidea;
                                                                                                                                                                                                                                                                                                Ser_protease_Try.
                                                                                                                                                                                                                                                                                                            EGF_Ca
                                                                                                                                                                                                                                                                                                                        Like.
                                   108;
                                 Score 1815.5;
Pred. No. 2.5e
08; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                            lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Saiga
                                                                                                                                                                                                                                                                                                                                                                                                                 FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Н.,
                                              5; DB 13;
.5e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sekine H.,
                                   216;
                                                                                                                                                                                                                                                                                                                                                                                                                 S1;
                                                                                                                                                                                                                                                                                                                                                                                                                 ALSO
                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            serine
                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Euteleostomi;
; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                 KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matsushita
                                                                                                                                                                                                                                                                                                                                                                                                                                                          protease
                                  23;
                                                                                                     Protease;
                                                                                                                                                                                                                                                                                                                                                                                                               AS
                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                  12;
В
                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                 Q96QG4;
Q96QG4;
01-DEC-2001
01-DEC-2001
01-MAR-2002
                                                                            MEDLINE=21318995; PubMed=11426320; Stover C., Endo Y., Takahashi M., Vorup-Jensen T., Thiel S., Friedl Fujita T., Schwaeble W.;
          Genes Immun. 2:1
EMBL; AJ300188;
                                            activation, is part
                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                     Eukaryota;
                                 1p36.2-3
                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                         Masp-2
                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                         596
                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                       657
                                                                                                                                                                                                                                                                                                                                             654
                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7
                                                                                                                                                                                                                                                                                                                                  SWGSMNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                       SWG-VDCGVARQYGVYTKVTNYYDWIQKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LASLLIWAVAFPCDGTSTELTALFGRISSPGFPKPYSNDLTMNWNIKVPEGYRIKIYFTY
                                                                                                                                                                                                      protein
00188; CAC15568.
IPR001254; Ser_
                                                                                                                                                                                                                 1 (TrEMBLrel. 19,
1 (TrEMBLrel. 19,
2 (TrEMBLrel. 20,
                                                                                                                                                                                                                                                                PRELIMINARY;
                      2:119-127(2001)
                                                                                                                                                                                 (Human)
                                                                                                                                                         Chordata;
Primates;
Ser_protease_Try
                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                PRT;
```

```
"The human gene for mannan-binding lectin-associated (MASP-2), the effector component of the lectin route activation, is part of a tightly linked gene cluster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QKCTAAYEKPPYPRGSVTA--NMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DFLKIQ--TDREEHGPFCGKTLPHRIETKSNTYTITFYTDESGDHTGWKIHYTSTAQPCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STCKLNMQ----PRCTIFSYRNMICAGPETGGKDSCAGDSGGALAFMDIESKKWFVGGIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVPLSESVLGICLPTREKRYHISQNEGDNHVGLVSGWGLTDRNVPSRKLRFVEVNIVDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NKVVINSNITPICLPRKEAESFMRTDD----IGTASGWGLTQRGFLARNLMYVDIPIVDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAAHVVYSYK-DLSTILIKMGFLTTQDSDYIRSWPEAVFIHEGY-KQGSYDNDIALIKLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESEKTTPPVCAPDCGMKKAVARARIVGAQVASIGEFPWQVYLNVNNEKGGGALLLDNWIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEKSL-PVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQV-LILGGTTAAGALLYDNWVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IIVNCGNPDDIDNGKYTFVTAKEVTLYNSVVQYECTGPFYYMKDGKGKYRCGADGFWGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DPILTNKGHFTPQQKTYVARDRLSLTCDKGFVLLEDSRTIPSFTMTCQPNGTWDKKLPKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKLQLQITAKGKEIALLCGETIPTDIEIRSNEAEVFFSTDDSGYHTGWKIQYTTKAIPCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CPDAVYKRSSGTITSPDYPDAYPKLFNCKYRILVEEGLYIILKFLH-FNVEFHQDVPCPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FNLELSYLCEYDYLKLSSKGTEVAHFCGKESTDTEKAPGDSVFYSLDNKMTVTFRSDYSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FDLELSHLCEYDFVKLSSGÅKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSN |:|||||:||||:||| :: :||||||||||||
                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                               Craniata; V
Catarrhini;
                                                                                  Lynch N., Constantinescu
H., Hankeln T., Hall R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  683
                                                                                                                                                                                                                                                                                                                                                                                                       323
                                                                                                                                                                                                               Vertebrata; Euteleostomi;
i; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                       Ą
    of comp
      chromosome
                       comp1
                                                                                Gregory
                                           protease-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126
                                                                                      s.
```

<u>, .</u>

```
RESULT
Q9QX85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEEEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SQ FT DR DR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Ma
Best Loc
Matches
                                        MEROPS; SU1.22,
InterPro; IPR001314; Chymotrypau...
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR000436; Sushi_SCR_CCP.
InterPro; IPR00084; sushi; 2.
Pfam; PF00089; trypsin; 1.
R Pfam; PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000436; Sushi_SCR_C Pfam; PF00084; Sushi; 1.
Pfam; PF00089; trypsin; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1 PROSITE; PS00135; TRYPSIN_SER; UI Hydrolase; Serine protease.
NON_TER 1 1 1 SEQUENCE 323 AA; 35190 MW; 0
        Pfam; PF
PRINTS;
SMART; S
SMART; S
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-2000
01-MAY-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN-EISHER 344;
MEDLINE-20054576; PubMed-10586086;
Stover C.M., Thiel S., Lynch N.J., Schwaeble W.
The rat and mouse homologues of MASP-2 and MAP
mannan-binding lectin activation pathway of com
J. Immunol. 163:6848-6859(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MASP-2.
Rattus norvegicus (Rat).
Rukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                             EMBL; Y18571; CAB65388.1; HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9QX85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9QX85
                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID-10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364 VDCGPPDDLPSGRVEXITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            y Match
Local Sin
hes 322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                     TRYPSIN FAMILY
                                                                                                                                                                                                                                                                        SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKSLPVCEPVCGLSARTTGGRIYGGQXAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VDCGPPDDLPSGRAEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAH
  SM00032; CCP; 1.
SM00020; Tryp_SPC; 1.
E; PS50240; TRYPSIN_DOM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TrEMBLrel. 13, (TrEMBLrel. 13, (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sushi_SCR_CCP
                                                                                                                                                                                                                                                                           TO
                                                                                                                                                                                                                          .'
                                                                                                                                                                                                                                                                        PEPTIDASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
Last sequ
Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1751;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09A86CA502442817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence up
                                                                                                                                                                                                                                                                        FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3e-142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΑA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                            le W.J.;
d MAp19, compo
f complement.'
                                                                                                                                                                                                                                                                        S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                        ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                  components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Murinae;
                                                                                                                                                                                                                                                                        KNOWN
                                                                                                                                                                                                                                                                        AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                        THE
                                                                                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
      AID
DOC COCCETTAX
DOC COCCETTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQ
                                 X MEDILINE 20034.76; PubMed=10586086;

X Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.;

Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.;

You wanted the store of the s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 297; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9QXD2;
01-MAY-2000
01-MAY-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase;
NON_TER
SEQUENCE
                     InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9QXD2
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN-B6CBAF1/J;
                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MASP2 OR MASP-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00135; TRYPSIN_SER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSAR 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENIINNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLDRGGKDSCRGDSGGALVFLDNETQRWFVGGIVSWGSINCGGSEQYGVYTKVTNYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GILKRLSLIYTQAWPEAVFIHEGYTHGAGFDNDIALIKLKNKVTINRNIMPICLPRKEAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TSGGRIIGGQPAKPGDFPWQVLLLGETTAAGALIHDDWVLTAAHAVYGKTEAMSSLDIRM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGRIYGGQKAKPGDFFWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENIISDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000 (TrEMBLrel. 13, Created)
2000 (TrEMBLrel. 13, Last sequence update)
2002 (TrEMBLrel. 21, Last annotation updat
binding lectin-associated serine protease
    IPR004825;
IPR000436;
                                                                                                                                                                                                                                                                                                                                                                                                                                   s (Mouse).
s (Mouse).
Metazoa; Chordata; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Serine protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      366 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         686
Asx_hydroxyl.
CUB_domain.
EGF-like.
EGF_Ca.
Ins/IGF/relax.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 3.808; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1634.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F84F5ACF0EC93468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 8e-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protease-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                         FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                          components
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          بر
                                                                                                                                                                                                                                                                                                            ō,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559
```

```
당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                096RS4;
01-DEC-2001 (TrEMBLrel. 19, Creat
01-DEC-2001 (TrEMBLrel. 21, Last
01-JUN-2002 (TrEMBLrel. 21, Last
101-JUN-2002 (TrEMBLrel. 21, Last
101-JUN-2002 (TrEMBLrel. 21, Last
101-JUN-2002 (TrEMBLrel. 21, Last
101-JUN-2002 (TrEMBLrel. 21, Last
101-JUN-2003 (TrEMBLrel. 19, Creat
101-JUN-2003 (TrEMBLrel. 19, Creat
101-JUN-2003 (TrEMBLrel. 19, Creat
101-JUN-2003 (TrEMBLrel. 19, Last
101-JUN-2003 (TrEMBLrel. 19, Last
101-JUN-2003 (TrEMBLrel. 19, Last
101-JUN-2003 (TrEMBLrel. 19, Last
101-JUN-2003 (TrEMBLrel. 21, La
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00431; CUB; 2.
Pfam; PF00084; SUShi; 1.
PRINTS; PR00277; INSULINB.
SMART; SM00032; CCP; 1.
SMART; SM000042; CUB; 2.
SMART; SM00109; EGF_CA; 1.
PROSITE; PS001180; CUB; 2.
PROSITE; PS01180; CUB; 2.
PROSITE; PS01186; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
CGalcium-binding; EGF-11ke domain; Gl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON_TER
SEQUENCE
                                                  MEDLINE=21378425; PubMed=11485744;
Dahl M.R., Thiel S., Matsushita M., Fujita T., Willi Christensen T., Vorup-Jensen T., Jensenius J.C.;
"Masp-3 and its association with distinct complexes binding lectin complement activation pathway.";
Immunity 15:127-135(2001)
EMBL; AF284421; AAK84071.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Repeat; Signal
SIGNAL
             InterPro; IPR000152; Asx_hydroxyl
InterPro; IPR000859; CUB_domain.
                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                Q96RS4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RLTTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALCSGQVFTGKSGYLSSPEYPQPYPKLSSCTYSIRLEDGFSVILDFVESFDVETHPEAQC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
IPR000561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
367 i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43.3%; ilarity 80.9%; Conservative 2
                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
367
40950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29;
                                                                                                                                                                                                                                                                                                                    Last
Last
                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 2.1e-131;
9; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1626;
                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F66FCB29CEAB2B7D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              UNKNOWN_1
                                                                                                                                                                                                                                                                                                                  sequence update)
annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Glycoprotein; Lectin;
                                                                                                                                                                                                                                                                                                                                                                                              728
                                                                                                                                                                                                                                                                                                                                                                                              Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 11;
                                                                                                                                            Willis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                           of
                                                                                                                                                Þ
                                                                                                           the
                                                                                                                                                Ċ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367;
                                                                                                             mannan-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
RESULT
Q920S0
ID Q9
AC Q9
                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R InterPro; IPRO01881; EGF_Ca.

R InterPro; IPRO01254; Ser_protease_Try.

R InterPro; IPRO00436; Sushi_SCR_CCP.

R InterPro; IPRO00436; Sushi_SCR_CCP.

R InterPro; IPRO00436; Sushi_SCR_CCP.

R InterPro; IPRO00436; Sushi_SCR_CCP.

R Pfam; PF000431; CUB; 2.

Pfam; PF00089; trypsin; 1.

R Pf00181; EGF; 1.

R PROSITE; PS01181; EGF; 1.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01186; EGF_C2; UNKNOWN_1.

PROSITE; PS01187; EGF_CA; UNKNOWN_1.

PROSITE; PS01187; EGF_CA; UNKNOWN_1.

PROSITE; PS00135; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; UNKNOWN_1.

Hydrolase; Serine protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                               658
                                                                                                                                                                                                                                                                    599
                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                         519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Sir
hes 307;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MRLLTLLGLLCGSVATPLGPKWP-EPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL
                                                                                                                                                                                                             DSCRGDSGGALVFLDSETERWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCKIVDCRAPGELEHGLITFSTRNNLTTYKSEIKYSCQEPYYKMLNNNTGIYTCSAQGVW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP | | | | | : : | | : : | | : : | | : : | : | : | : | : | : | : | | : | : | : | : | : | : | : | | : | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CSALCSGQVFTQRSGELSSPEYPRYPKLSSCTYSISLEEGFSVILDFVESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKL
                                                                                                                                                             DTCLGDSGGAFVIFDDLSQRWVVQGLVSWGGPEECGSKQVYGVYTKVSNYVDWV
                                                                                                                                                                                                                                                                 NVTVDEIISSGTRTLSDVLQYVKLPVVPHAECKTSYESRS-GNYSVTENMFCAGYYEGGK
                                                                                                                                                                                                                                                                                                                                                                     LHPDF-NIQNYNHDIALVQLQEPVPLGPHVMPVCLPRLEPEG-PAPHMLGLVAGWGISNP
                                                                                                                                                                                                                                                                                                                                                                                                                         IHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FGSGALLSASWILTAAHVLRSQRRDTTVIPVSKEHVTVYLGLHDVRDKSGAVNSSAARVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --AGALLYDNWVLTAAHAVYEQKHDASALDI-RMGTLKRLSPHYTQAWSEA-----VF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MNKVLGRSLPTCLPECGQPSRSLPSLVKRIIGGRNAEPGLFPWQALIVVEDTSRVPNDKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETEYTM-KVNDGKYVCEADGFW 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRVECSDNLFTQRTGVITSPDFPNPYPKSSECLYTIELEEGFMVNLQFEDIFDIEDHPEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Serine protease.
728 AA; 81860 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                            -LARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42.8%; Score 1609;
43.0%; Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 1.05
14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09B5297A6C14283A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.6e-129;
hes 245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 728;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                  626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11;
```

Q920S0 Q920S0,

PRELIMINARY;

PRT;

733

⋛

```
Ş
                                      Ъ
                                                         Š
                                                                                       В
                                                                                                             δÃ
                                                                                                                                        В
                                                                                                                                                             οy
                                                                                                                                                                                           밁
                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
01-JUN-2002 (TrEMBLrel. 2
MBL-associated serine pro
MASP1 OR MASP3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MGD; MGI:88492; Maspl.
InterPro; IPR000152; As
InterPro; IPR000859; CU
InterPro; IPR000561; EG
InterPro; IPR001881; EG
InterPro; IPR001881; EG
InterPro; IPR000436; Su
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00010; ASX_HYDROXYL; UNKNOWN_1.
PROSITE; PS01180; CUB; 2.
PROSITE; PS01186; EGE_2; UNKNOWN_1.
PROSITE; PS01187; EGE_CA; UNKNOWN_1.
PROSITE; PS01240; TRYPSIN_DOM; 1.
PROSITE; PS00135; TRYPSIN_SER; UNKNOWN_1.
Hydrolase; Protease; Serine protease.
SEQUENCE 733 AA; 82373 MW; 6B917743118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "An essecial role of MBL-associated serine protease-1 activation of complement by lectin pathway."; Submitted (OCT-2000) to the EMBL/GenBank/DDBJ database EMBL; AB049755; BAB69688.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABL....
MASP1 OR MASF..
Mus musculus (Mouse).
Mus musculus (Motazoa; Chordata;
Metazoa; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-BALB/C; TISSUE-LIVER; Takahashi M., Miura S., Ishii N., Endo Y., Matsushita M., Fujita T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pram;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00431; CUB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEROPS; S01.132;
              444
                                        392
                                                                                                                                                                   266
                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                              152
                                                                                                                                                                                                                                                                      146
                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                      86
                                                                                                                                                                                                                                                                                                                                                 32
                                                                                                                                                                                                                                                                                                                                                                            26
                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                     RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                              TTYKSEIRYSCOOPYYKMLHNTTGVYTCSAHGTWTNEVLKRSLPTCLPVCGOPSRALPNL
                                                 PKSSECSYTIDLEEGFWVSLQFEDIFDIEDHPEVPCPYDYIKIKAGSKVWGPFCGEKSPE
                                                                                                                                                                                                      PKLSSCTYSISLEEGFSVILDEVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPH
                                                                                                                                                                                                                                           EDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRTCRVECSGNLFTQRTGTITSPDYPNPY
                                                                                                                                                                                                                                                       LATFCGRETTOTEQTPGQEVVLSPGTEMSVTFRSDESNEERFTGFDAHYMAVDVDECKER
                                                                                                                                                                                                                                                                                                           LATLCGOESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVA 145
                                                                                       VSCDTGYKVLKDNGVMDTFQIECLKDGAWSNKIPTCKIVDCGAPAGLKHGLVTFSTRNNL
                                                                                                               IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                       PISTQTHSVQILFRSDNSGENRGWRLSYRAAGNECPKLQPPVYGKIEPSQAVYSFKDQVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00084; sushi; 2.
PF00089; trypsin; 1.
; SM00181; EGF; 1.
 RIYGGQKAKPGDEPWQVLILGGTTA--
                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
--
                                                                                                                                                                                                                                                                                                                                                                                                              42.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : Asx_hydroxyl.
: CUB_domain.
: EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Serine protease.
82373 MW; 6B917743118941C1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ser_protease_fry.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EGF_Ca.

    19, Created)
    19, Last sequence up
    21, Last annotation
    protease-3.

                                                                                                                                                                                                                                                                                                                                                                                                              Score 1603.5; I
Pred. No. 4.8e-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sugamura
             AGALLYDNWVLTAAHAVYEQKHDA
:== ::::== :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ×.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                          DB 11; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shuichi M.,
                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Euteleostomi;
; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                  37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shiro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in
                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s,
                                                                                                                                       331
                                                                                                                                                                                                                                                                   205
                                     451
                                                            443
                                                                                     391
                                                                                                               385
                                                                                                                                                               325
                                                                                                                                                                                          271
                                                                                                                                                                                                                  265
                                                                                                                                                                                                                                           211
                                                                                                                                                                                                                                                                                              151
                                                                                                                                                                                                                                                                                                                                                91
                                                                                                                                                                                                                                                                                                                                                                                                 10;
```

```
RESULT
Q9JJS9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                         Pfam; PF00431; CUB; 2.

Pfam; PF00084, sushi; 2.

Pfam; PF00084, sushi; 2.

Pfam; PF00089, trypsin; 1.

PRINTS; PR000722; CHYMOTRYPSIN.

SMART; SM000032; CCC; 2.

SMART; SM00103; CCC; 2.

SMART; SM001042; CUB; 2.

SMART; SM001042; CUB; 2.

SMART; SM00109; EGF_CA; 1.

SMART; SM00109; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS01186; CGF_2; 1.

PROSITE; PS01186; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS0134; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.

Calcium-binding; EGF-1ike domain; Glycoprotein; Hy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9JJS9
Q9JJS9;
01-OCT-2000
01-OCT-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interpro: IPR000859; (Interpro: IPR000561; Interpro: IPR001881; Interpro: IPR001254; Interpro: IPR000436; (Interpro: IPR00436; (Interpro: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-20469449; PubMed-10913141;
Wallis R., Dodd R.B.;
"Interaction of mannose-binding proteir
proteases: Effects of naturally occuring biol. Chem. 275:30962-30969(2000).
J. BIOL. Chem. 275:30962-30969(2000).
-i- SIMILARITY: BELONGS TO PEPTIDASE FA
                   Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-LIVER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat)
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000152; InterPro; IPR001314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP; P00736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AJ277423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Fragment).
MASP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRYPSIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVIPVSKEHVTVYLGLHDVRDKSGAVNSSAARVILHPDF-NIQNYNHDIALVQLQKPVPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSWGGPEECGSKQVYGVYTKVSNYVDWL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VSWGS-MNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VSHAECKASYESRS-GNYSVTENMFCAGYYEGGKDTCLGDSGGAFVIFDEMSQHWVAQGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAHVMPICLPRPEPEG-PAPHMLGLVAGWGISNPNVTVDEIILSGTRTLSDVLQYVKLPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SALDI-RMGTLKRLSPHYTQAWSEA-----VFIHEGYTHDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VKRIIGGRNAELGLFPWQALIVVEDTSRVPNDKWFGSGALLSESWILTAAHVLRSQRRDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGF------
                                            Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S01.198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 15, Created)
(TrEMBLrel. 15, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
ding protein associated serine protease-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1APQ.
                                          protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAB89695.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Asx_hydroxyl.; Chymotrypsin.; CUB_domain.; EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGF_Ca.
                                          Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .'
POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein with associated occuring mutations.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALSO
                                                                   Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LARNLMYVDIPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      serine
                                                                   Protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               511
```

```
RESULT
Q9QX91
   맑
                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                            Q9QX91;
Q9QX91;
01-MAY-2000
01-MAY-2000
01-JUN-2002
                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10116;
                                                                                                                                                 MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
     STRAIN-FISHER
                      SEQUENCE
                                                                                                                               MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                             644
                                                                                                                                                                                                                                                                                                                                                                                                                                    573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                        CAGDSGGPMVTKDAERDQWYLVGVVSWGE-DCGKKDRYGVYSYIYPNKDWIQRV
                                                                                                                                                                                                                                                                                                                                                                                                                    WGLTQRGFLAR---NLMYVDIPIVDHQKCTAAYEKPPYPRG-SVTANMLCAGLESGGKDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HIMLHPLY-NPSTFENDLGLVELSESPRLNDFVMPVCLPEHPSTE-----GTMVIVSG
                                                                                                                                                                                                                                                                                                                                              CRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGT---ASG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSNWVLTAAHCLHHPLDPEEPILHNSHLLSPSDFKI----IMGKHWRRRSDEDEQHLHVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YDNWVLTAAHAVY-----EQKHDASALDIRMGTLKRLSPHYTQAWSE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN-DGKYVCEADGFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YEMHFNLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTPGQEVVLSPGSFMSVTFRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRS
                                                                                                                                                                                                                                                                                                                                                                                                 WG---KQFLQRLPENLMEIEIPIVNYHTCQEAYT----PLGKKVTQDMICAGEKEGGKDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TNEVLKRSLPTCLPVCGLPKFSRKHISRIFNGRPAQKGTTPWIAMLSQLNGQPFCGGSLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TSSKGEKSLPVCEPVCGLS--ARTTGGRIYGGQKAKPGDFPWQVLIL---GGTTAAGALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCKIVDCGVPAVLKHGLVTFSTRNNLTTYKSEIRYSCQQPYYKMLHNTTGVYTCSAHGTW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CPKLQPPVYGKIEPSQAVYSFKDQVLISCDTGYKVLKDNEVMDTFQIECLKDGAWSNKIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCPYDYIKIKAGSKVWGPFCGEKSPEPISTQSHSIQILFRSDNSGENRGWRLSYRAAGNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \tt RRLLLYHVLCLTL-TEVSAHTVELNEMFGQIQSPGYPDSYPSDSEVTWNITVPEGFRVQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RLLTLLGLLCGSVATPLGPKWPE---PVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL
                                                                        norvegicus (Rat).
ota; Metazoa; Chordata;
ia; Eutheria; Rodentia;
                                                                                                                                              protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                      FROM
                                                                                                                                                           0 (TrEMBLrel. 13, 0 (TrEMBLrel. 13, 2 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative 132;
                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22
   N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41.48;
42.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         79663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MW;
                                                                                                                                                                                 Created)
Last sequ
                                                                                                                                                              Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1555;
Pred. No. 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEASE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MANNOSE-BINDING PROTEIN ASSOCIATED
                                                                      Craniata; Veri
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches 227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B5CFD619D63CE3DD CRC64;
                                                                                                                                                                                                                                    339
                                                                      Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 11;
;.7e-125;
                                                                                                                                                                                                                                    ĀΑ
                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54;
                                                                                                                                                                                                                                                                                                                           696
                                                                                                                                                                                                                                                                                                                                                              682
                                                                         Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SERINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                 643
                                                                                                                                                                                                                                                                                                                                                                                                                                   628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
RESULT 15
Q9PVY2
ID Q9PVY
AC Q9PVY
AC Q9PVY
DT 01-MA
DT 01-MA
DT 01-JU
DE Manno
OS Triak
OC Elasm
OC Elasm
OC Elasm
OC Triak
COC Triak
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SQ PT W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                                                                                                                 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        347
                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
```

```
Query Match
Best Local Similarity
Matches 275; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00084; sushi; 1.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
SMART; SM00032; CCP; 1.
SMART; SM00032; TryP_SPC; 1.
PROSITE; PS050240; TRYPSIN_DOM; 1
PROSITE; PS00135; TRYPSIN_SER; 1
                                                                                                                                                                                                                                    Q9PVY2
Q9PVY2;
Q1-MAY-2000
Q1-MAY-2000
Q1-JUN-2002;
               MEDLINE=99008558; PubMed=9794427;
Endo Y., Takahashi M., Nakao M.,
Nonaka M., Fujita T.;
                                                                                                                                                              Mannose-binding lectin-associated serine protease.
Triakis scyllium (Leopard shark) (Triakis scyllia).
Eukaryota, Metazoa; Chordata; Craniata; Vertebratta; Chondrichthyes;
Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes; Triakid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Stover C.M., Thiel S., Lynch N.J., Schwaeble W.J.; "The rat and mouse homologues of MASP-2 and MAP19, components mannan-binding lectin activation pathway of complement."; J. Immunol. 163:6848-6859(1999).
                                                                       TISSUE=LIVER;
                                                                                        SEQUENCE FROM N.A.
                                                                                                             NCBI_TaxID=30494;
[1]
                                                                                                                                                 Triakis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase; Serine protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEROPS; S01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=20054576; PubMed=10586086;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1; ALSO KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRYPSIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lineages of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGT
                                                                                                                                                                                                                                                                                                                                                                                                        WFVGGIVSWGSINCGGSEQYGVYTKVTNYIPWIENIINNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHD
                                                                                                                                                                                                                                                                                                                                                                                                                           WFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGFONDIALIKLKNKVTINRNIMPICLPRKEAASLMKTDFVGTVAGWGLTQKGFLARNLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAAGALIHDDWVLTAAHAVYGKTEAMSSLDIRMGILKRLSLIYTQAWPEAVFIHEGYTHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GKYVCEADGFWTSSKGEKSLPVCKPVCGLSTHTSGGRIIGGQPAKPGDFPWQVLLLGET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y18565; CAB65382.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; IPR001314; (; IPR001254; ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR001314; Chymotrypsin.
IPR001254; Ser_protease_Try.
IPR000436; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   339
                                                                                                                                                                                                                                    (TrEMBLrel. 13, Created)
(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA; 36950 MW;
mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83EF950150AB37A7 CRC64;
 Lectin-associated
                                   Saiga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No. 8.7e
                                                                                                                                                                                                                                                                                                                 719
                                 Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .7e-122;
                                                                                                                                                                                                                                                                                                                ₿
                                   Sekine H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40;
                                                                                                                                                                                                                                                                                                                                                                                                                                          686
                                                                                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
 serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                     Matsushita
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
```

1:

```
Š
                                                      멍
                                                                                 Š
                                                                                                              밁
                                                                                                                                      δÃ
                                                                                                                                                                     밁
                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Sim
Matches 291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro: IPR003006; Ig_MHC.
InterPro: IPR001254; Ser_protea:
InterPro: IPR000436; Sushi_SCR_0
Pfam; PF00431; CUB; 2.
Pfam; PF00084; sushi; 2.
Pfam; PF00084; sushi; 2.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Immunol. 161:4924
-!- SIMILARITY: CONT
-!- SIMILARITY: BELC
TRYPSIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS00100; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS00120; IG_MHC; UNKNOWN_1.

PROSITE; PS00240; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; UNKNOWN_1.

PROSITE; PS00135; TRYPSIN_SER; UNKNOWN_1.

Calcium-binding; EGF-like domain; Glycoprotein; Hydrolase; Protease; Repeat; Serine protease.

Protease; Repeat; Serine protease.

SEQUENCE 719 AA; 80425 MW; 17C64151870444E5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00722; CHYMOTRYP
SMART; SM00032; CCP; 2.
SMART; SM00042; CUB; 2.
'SMART; SM000179; EGF CA; 1.
SMART; SM00020; TryP_SPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001314;
InterPro; IPR000859;
InterPro; IPR001881;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AB009074; BAA86867.1; HSSP; P00736; 1APQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEROPS; S01.132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MASP) in
  490
                             478
                                                         430
                                                                                                                                                                      310
                                                                                                                                                                                                                                                                                                                                                                      131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000152;
                                                                                                                370
                                                                                                                                                                                                                               250
                                                                                                                                                                                                                                                        251
                                                                                                                                                                                                                                                                                     190
                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                            130
                                                                                                                                                                                                                                                                                                                                                                                                   70
                                                                                                                                                                                                                                                                                                                                                                                                                             71
                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13
                                                   DREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGH
                                                                                                                                                                                                                                                                                                 QRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFYESFDVETHPETLCPYDFLKIQT
                                                                                                                                                                                                                                                                                                                                                      EAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFT
                                                                                                                                                                                                                                                                                                                                                                                                             LCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGF 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SFFTPAGANVTELTGMFGQIQSPNYPEGYPSDLDVTWNITVPAGFRIKLYFMHFDLEPSY
                       VLTAAHAVYEQKHDASAL------DIRMGTLKRLSPHYTQAWSEAVFIHEGYT
                                                                                                                                    DLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN-DGKYVCEADGFWTSSKGEKSLPV
                                                                                                                                                                                     SVATPLGPKWPE--PVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH
                                                                                                                                                                   IEPVQDQYSFKDQVQIRCNTGFKFVKAGDEVEAYQIECQKSGSWSSSIPTCKVIDCGAPR
                                                                                                                                                                                                                          GSMAFGPFCGDKSPGKIDTNSSSVQILFHSGGSGDNQGWKMSFLSVGTPCPILHPPANGT
                                                                                                                                                                                                                                                                                 EAHYSAVDIDECVEKLDEALVCDHFCHNYIGGYYCSCRFSYILHTDNRTCKVECNDNVFT
                                                                                                                                                                                                                                                                                                                                                                                                LCEYDYVKVVSDEDLLETFCGRESTDTEQIPGREFVLTNSNTMAVTLKTDFSNEERFTGF
VLTAAHVLRSQRRDTITLVPSEYVTIYLGLHDVRQ---KEAAAKRT---VEKIILHKAF-
                                                                                                              PLEDGIITFHSKENLTLFRSHIEYSCPALHYHLEPELNTTYTCMENGFWVNDELGTDLPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 40.5
91; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vertebrates."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        161:4924-4930(1998).
ITY: CONTAINS 2 CUB DOMAINS
ITY: BELONGS TO PEPTIDASE FA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Asx_hydroxyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGF_Ca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1510; D
Pred. No. 5.2e
26; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FAMILY S1; ALSO KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 13;
5.2e-121;
nes 245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lectin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                 477
                                                                                                                                         429
                                                                                                                                                                                                                                                                                  249
                                                                                                                                                                                                                                                                                                                                         189
                                                                                                                                                                                                                                                                                                                                                                     190
                                                                                                                                                                                                                                                                                                                                                                                                 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                        69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70
                                                      489
                                                                                                                                                                                                                            309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14;
```

```
RESULT
Q9PU71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                             InterPro; IPRO0152; Asx_hydroxyl.
InterPro; IPRO01514; Chymotrypsin.
InterPro; IPRO001521; EGF-11ke.
InterPro; IPRO00859; CUB_domain.
InterPro; IPRO00869; EGF-11ke.
InterPro; IPRO01881; EGF_Ca.
InterPro; IPRO01254; Ser_protease_Tr
InterPro; IPRO01254; Ser_protease_Tr
InterPro; IPRO00436; Sushi_SCR_CCP.
Pfam; PF00084; Sushi; 2.
Pfam; PF00084; Sushi; 2.
Pfam; PF00084; Sushi; 2.
Pfam; PF00084; CCP; 2.
Pfam; PF00084; CCP; 2.
SMART; SM000722; CHMOTRYPSIN.
SMART; SM00072; CCP; 2.
SMART; SM00072; CGP; 2.
SMART; SM00019; EGF_CA; 1.
SMART; SM00019; EGF_CA; 1.
SMART; SM00010; ASX_HYDROXYL; UNKI
PROSITE; PS01180; CGB; 2.
R PROSITE; PS01186; EGF_2; 1.
R PROSITE; PS01187; EGF_CA; 1.
R PROSITE; PS01187; EGF_CA; 1.
R PROSITE; PS00134; TRYPSIN_DOM; 1.
R PROSITE; PS00134; TRYPSIN_DOM; 1.
R PROSITE; PS00135; TRYPSIN_GER; 1.
R PROSITE; PS00135; TRYPSIN_GER; 1.
Query Match
Best Local Similarity
Matches 289; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9PU71;
Q9PU71;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; D83276; BAA86869.1; HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                 Repeat; Serine
SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY: CONTAINS 2 CUB DOMAIN
-!- SIMILARITY: BELONGS TO PEPTIDASE
TRYPSIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Two lineages of mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nonaka M., Fujita T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-99008558; PubMed-9794427;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mannose-binding protein-associated serine
                                                      SEQUENCE
                                                                                         Calcium-binding; EGF-like domain; Glycoprotein; Hydrolase; Protease;
                                                                                                                                                                                                                                                                                                                                                                                                        MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MASP) in vertebrates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Immunol. 161:4924-4930(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRGDSGGALVFLDSETERWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENIISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLGDSGGAFITYDSSTQSWVAQGLVSWGGPEKCGSKRVYGVYTKISKYARWLADKMSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HDAGFDNDIALIKLNNKVVINSNITPICLP--RKEAESFMRTDDIGTASGWGLT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DPRTYNNDIALVKMKDKVSMNVFVMPLCLPSLHQEMEE-PQPNTLGLVAGWGITNPNLTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DDASGSDQATLSNILQYVKLPVTLQAECKSSYESRSDSY---NVTDNMFCAGFYEGGKDT
                                                                                                                                                                                                                                                                                                                                                                                                        S01.198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               869
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xenopus
                                                     AA;
                                                                    protease; Signal
l 17 PO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         M., Nakao
                                                     79414 MW;
                                                                                                                                                                                                                                                                                                        Ser_protease_Try.
Sushi_SCR_CCP.
              39
42
            . 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 CUB DOMAINS
 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
3
            Score 1492;
Pred. No. 1
                                                  POTENTIAL.
79CE2FA4B774A6BE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                    UNKNOWN_1.
 Mismatches
                                                                                                                                                                                      UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saiga
                                                                                                                                                                                                                                                                                                                                                                                                                                                            FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Η.,
            ; DB 13;
1.8e-119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sekine H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALSO
                                                     CRC64;
                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MASP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matsushita
                         698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
```

Indels

36;

Gaps

11;

```
50
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                   Q9PVY3
                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Mannose-binding protein-associated serine protease.
Cyprinus carpio (Common carp).
                                                                                                                              Actinopterygii; Neopterygii; Cyprinidae; Cyprinus. NCBI_TaxID=7962;
                        Nonaka M., Fujita T.;
"Two lineages of mannose-binding (MASP) in vertebrates.";
                                                                  Endo Y., Takahashi
                                                                            TISSUE=LIVER;
MEDLINE=99008558; PubMed=9794427;
                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                          Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                       Q9PVY3
                                                                                                                                                                                                                                                                                                                                        673
                                                                                                                                                                                                                                                                                                                                                                662
                                                                                                                                                                                                                                                                                                                                                                                          617
                                                                                                                                                                                                                                                                                                                                                                                                                    602
                                                                                                                                                                                                                                                                                                                                                                                                                                               564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26
 SIMILARITY:
                                                                                                                                                                                                                                                                                                                                       KKIRYGMYSDVYKNLDWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MFGEIRSLFFPDSYPSDSEVTWNITVPRGFSLKLYEMHFDLEPSYLCEYDYAKVESEDQV
                                                                                                                                                                                                                                                                                                                                                              EAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                      YQTLEL---LYTDEMICAGFKEGGKDACSGDSGGPMYTKNELKKHWYLAGTVSWG-VGCG
                                                                                                                                                                                                                                                                                                                                                                                                                YEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLAR---NLMYVDIPIVDHQKCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKWFELSSFKVILGKHRTLKKDDTEQTFQAKNLILHPNYKPKT~FRFDIALVELSDKAFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---HDASALDIRMGTLKRLSPHYTQAWSEA--VFTHEGYTHDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ARIAGGKTAKRGISPWIAMFSDSQNNQPFCGGALISNKWIVTAAHCLHHELDTEDTDLNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RKETGSNTVQILFHRYNSGENGGWRLSYSVTGMPCPNLHPPMNGKLEPPQSEYTFKDQVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDEDLYCDHHCHNYIGGFYCSCRFGYLLHTDNRTCKVECSDNLFTQRSGLISSPDYPSPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKV
                                                                                                                                                                                                                                                                                                                                                                                                                                            NDYVMPICLPEKQVQQ-----DEHVIVSGWG----KHFLKRLPDSLMEVEIPVVGQTLCKTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTFQSSFNYSCREPYYMMVPNITLVYTCDASGEWTSQEIGAKIPTCQPVCGVPRFSRSAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKSSDCRYRIELEEGFVINLHFDDNFDVEDHPEVKCPYDYLKIKTGKNEFGPLCGEKSPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PKLSSCTYSISLEEGFSVILDEVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ISCNQGYRVLKDNVEMESLQIECRKDGTWSNQIPPVQIVDCKKPKEIENGFITYSTAENR
161:4924-4930(1998)
ITY: CONTAINS 2 CUB
                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                               M., Nakao
                                                                                                                                                                                                                                                                                                                                        691
 CUB DOMAINS
                                                                 .
.
                                                                                                                                                             Teleostei;
                                                                                                                                                                          Craniata;
                                        lectin-associated
                                                                 Saiga
                                                                                                                                                                                                                                                                     745
                                                                                                                                                           Vertebrata; Euteleostomi;
Ostariophysi; Cypriniform
                                                                                                                                                                                                                                                                     AΑ
                                                                 Sekine
                                                               н.,
                                      serine
                                                                 Matsushita
                                                                                                                                                            Cypriniformes;
                                      protease
                                                                 z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                442
                                                                                                                                                                                                                                                                                                                                                                                          672
                                                                                                                                                                                                                                                                                                                                                                                                                                            616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
```

```
δÃ
                                                                               B
                                                                                                         Ş
                                                                                                                                                              δÃ
                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωy
                          B
                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Sin
Matches 289;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00084; SUShi; 2.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR00722; CCP; 2.

SMART; SM00032; CCP; 2.

SMART; SM00042; CUB; 2.

SMART; SM00181; EGF; 1.

SMART; SM00181; EGF; 1.

SMART; SM00180; CUB; 2.

SMART; SM00180; CUB; 2.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS01186; EGF_3; 1.

PROSITE; PS0135; TRYPSIN_SER; UN; EGF-11ke domain; Glycoprotein; Hy
SEQUENCE 745 AA; 83248 MW; F11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00431; CUB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000561;
InterPro; IPR001881;
InterPro; IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AB009073;
HSSP; P00763; 1
                            535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000152;
 556
                                                                                490
                                                                                                         468
                                                                                                                                                                 433
                                                                                                                                      430
                                                                                                                                                                                                                     375
                                                                                                                                                                                                                                                316
                                                                                                                                                                                                                                                                         315
                                                                                                                                                                                                                                                                                                     256
                                                                                                                                                                                                                                                                                                                               255
                                                                                                                                                                                                                                                                                                                                                          196
                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                                                                                                                                                                                                                                                              136
                                                                                                                                                                                                                                                                                                                                                                                                                                         135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRYPSIN FAMILY
                                                                                                                                                                                                                                                              QAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPS
                                                                                                                                                                                                                                                                                                                                                                                                            :| |:||:
SAADVDECRDRNDHRQDLHHFCHNYIGGFYCSCRYGFLLHSDNRTCKVECNESMYTERSG
                                                                                                                                                                                                                                                                                                                                                                                                                           PKWPE-----PVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEY
-- KEAESFMRTDDIGTASGWGL
                         VHLGLTDIRDKHLATNRSVAKVILHPQFDPQNYNNDIALIKLSQEVVLSALIQPVCLPRP
                                                                                SRVPEDRWFGSGALLSSTWVLTAAHVLRSHRRDFSVVPVA---
                                                                                                                                    FETTLSVNAESQLPTPLTSTPLACGEQSQLFPAQQKRIVGGRTASPGLFPWQVLLSVEDV
                                                                                                                                                                                          GEVIFESFGNSTVFGSRIQYSCRD---SPQVNN-TYTCHQSGEWVSEDG-TPLPTCLPGD
                                                                                                                                                                                                                   GRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEP--
                                                                                                                                                                                                                                                QSNYIFKDHITLTCDPGYSLRQGDKEFEHYQIECQRDGKWSSDVPLCKMVDCGPV-DVVL
                                                                                                                                                                                                                                                                                                    FGPFCGEQSPGKIQTGSNIVNILFHSDSTGENLGWKLTYTSTGSECSPLAAPLNGHLEPL
                                                                                                                                                                                                                                                                                                                 HGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPV
                                                                                                                                                                                                                                                                                                                                                          EITSADFPEPYPKTSDCTYHIELEEGFQITLEFDDTFDIEDHPEVTCPYDFIKIHAGDKV
                                                                                                                                                                                                                                                                                                                                                                      ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DYLKYYSDSEELAVFCGKENTDTERVPADNVITSPRNVLSVAFRSDFSNEERYSGFEAHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLWTQVIHLTDIYGTIKSPNFPESYPKEIDLQWNITVPDGYQIRLYFMHFDIEPSYLCEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S01.132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000436;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR000859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR001314;
                                                                                                         ----AGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1DPO.
                                                     -HDA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BAA86866.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         38.9%;
39.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chymotrypsin CUB_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGF_Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Asx_hydroxyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           118;
                                                                                                                                                               --VCGLSAR---TTGGRIYGGQKAKPGDFPWQVLILGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEPTIDASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1462;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hydrolase; Protease; Se
F129592A72B5EF53 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UNKNOWN_1
                                       GFDNDIALIKLNNKVVINSNITPICLPR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FAMILY
TQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .3e-117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AS
                                                                                SEHIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
600
                                                    555
                                                                                                         518
                                                                                                                                    489
                                                                                534
                                                                                                                                                               467
                                                                                                                                                                                          429
                                                                                                                                                                                                                     432
                                                                                                                                                                                                                                                374
                                                                                                                                                                                                                                                                          374
                                                                                                                                                                                                                                                                                                     315
                                                                                                                                                                                                                                                                                                                             314
                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                  254
                                                                                                                                                                                                                                                                                                                                                                                                              195
                                                                                                                                                                                                                                                                                                                                                                                                                                      194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15;
```

```
ş
                                                         В
                                                                                        S
                                                                                                                                                                                                 3385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
Q9PSZ5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                           Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interpro; IPRO00152; A Interpro; IPRO001314; C Interpro; IPRO00859; C Interpro; IPRO00561; E Interpro; IPRO01254; S Interpro; IPRO01254; S Interpro; IPRO01436; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Endo Y., Takamu...

Ronaka M., Fujita T.;

"Two lineages of mannose-binding lectin (MASP) in vertebrates.";

J. Immunol. 161:4924-4930(1998).

J. Immunol. 161:4924-4930 (1998).

STMILARITY: CONTAINS 2 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                        SMART; SM00032; (SMART; SM00042; (SMART; SM00179; ISMART; SM00020; ISMART; SM000020; ISMART; SM000020; ISMART; SM000020; ISMA
                                                                                                                                                                                        SMART; SM00179; EGF_CA; 1.

SWART; SM00020; Tryp_SPC; 1.

PROSITE; PS000100 ASX_HVDROXYL; UNKNOWN_1.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01181; EGF_C2; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS0135; TRYPSIN_SER; 1.

PROSITE; PS0135; TRYPSIN_SER; 1.

Calcium-binding; EGF-like domain; Glycoprotein; Hydrolase; Protease; Repeat; Serine protease.

Protease; Repeat; Serine protease.

SEQUENCE 722 AA; 79591 MW; 81DFB4F78F540B20 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00084; Sushi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mannose-binding lectin-associated serine protease.

ampetra japonica (Japanese lamprey) (Entosphenus japonicus).

Eukaryota; Metazoa; Choddata; Craniata; Vertebrata; Hyperoartia;

Petromyzontiformes; Petromyzontidae; Lethenteron.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AB009075; BAA86868.1; -. HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-99008558; PubMed-9794427; Endo Y., Takahashi M., Nakao M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9PSZ5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9PSZ5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=94989;
                                                                                                                                                                                                                                                                                                                                                                                                                         ofam; PF00084; sushi; 2.
fam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18
                       59
                                                         10
                                                                                                                                             Local
                                                                                                                                                               Match
                                                                                          4
                     LYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFR
                                                                        LTLLGLLCGSVATPLGPKWPE-----PVFGRLASPGFPGEYANDQERRWTLTAPPGYRLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGEAGQYGVYTKVINYIPWI 679
|| |||||:| ||| |:
CGSQRVYGVYTRVANYIHWL 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GVKGHTLMPLPNTLGIVAGWGINTANTSASTSGLTSDLGTVSELLQYVKLPIVPQDECEA
                                                      LLLLLLLSTLLVPCAPSVVEEHHLSAMHGSLRSSGYPKPYPNEAQQTWRISVPSGYRVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SYASRSV-NYNITSNMFCAGFYEGGQDTCLGDSGGAFVTQDARSGRWVAQGLVSWGGPEE 713
                                                                                                                                           Similarity
                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                      CCP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ٠ 2
                                                                                                                                           38.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EGF_Ca.
Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CUB_domain.
EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chymotrypsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Asx_hydroxyl.
                                                                                                                           112;
                                                                                                                           Score 1435; D
Pred. No. 1.5e
12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lectin-associated
   =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       722
                                                                                                                           DB 13;
1.5e-114;
nes 254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sekine H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALSO
                                                                                                                                                           Length
                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matsushita
   -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protease
   =
                                                                                                                           56;
                                                                                                                                                                                                                                Lectin;
                                                                                                                         Gaps
                                                        69
                                                                                      58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    654
                                                                                                                         19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
Q9ET60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                   Q9ET60;
Q9ET60;
01-MAR-2001;
01-MAR-2001;
01-JUN-2002;
                                                                                                                                                                                                                                                                                                                                                                      ClR.
                                                                                                                                                                                                         Byun S.J., Hyun J.H., "Cloning and Sequenci
                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                               STRAIN-C57BL/6;
                                                                                                                                                                                                                                                                                                                                                                                   Serine
                                  MEROPS; S01.192; - MGD; MGI:1355313; Clr
                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                               NCBI_TaxID=10090;
   InterPro;
                InterPro;
                                                                      HSSP;
                                                                                                                       -!- SIMILARITY:
-!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70
                                                                   TRYPSIN FAMILY.
L; AF148216; AAG01898
P; P00736; 1APQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LHFTFFDVETSFGCEYDYIKVEVTNEILGQFCGRQNGNT--APKAEPMVTPGNVVDITFV
                                                                                                                                                                                                                                                                                                                                                                                     protease.
IPR000152; Asx_hydroxyl.
IPR001314; Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                     l (TrEMBLrel.
l (TrEMBLrel.
2 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                (Mouse)
                                                                                                                                                                                                                                                                                                              Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                     16,
16,
21,
                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          707
```

```
Byun S.J., Hyun J.H., Hwang H.Y., Ryoo Z.Y., Kim T.Y.; "Cloning and Sequencing of a cDNA Encoding a Serine Protease Homologous to Human Complement Clr Precursor from an Allogra Skin and Its Expression in Escherichia coli."; Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G---GGALLGDRWVLTAAHVVAD--YAANETTVILGSMKRVSLKDNPLGSTQQYT---VD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGKDSCQGDSGGPIVVV--QDNKWFTVGVVSWG-MGCAKPGFYGVYTRVDKYLDWLRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLS------PHYTQAWSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E-TLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RSCTVECSNHVFTERQGELSSPDFPRPYPRALQCKFTLRLEEGFVFSLAFQEPFDVETHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDFSNDERYTGFEVYFTAVDIDECEEYARVDELACDHNCFNYPGGYQCSCQYGYYLADDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SDYSNEKPFTGFEAFYAAEDIDEC-QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SGWGRTAGTLGAMLADTLQYVDLPVVPQAECERANAGKWIAELNANSTVTENMFCAGYSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SGWGLTQ---RGFLARNLMYVDIPIVDHQKCTAA----YEKPPYPRGSVTANMLCAGLES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ESGHWTDPRSGEKVPKCEPVCGEPKHVIMELLRIVGGRSARSGNFPWQVLVKFMSGRMLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADGFWTSSKGEKSLPVCEPVCGLSARTTGG--RIYGGQKAKPGDFPWQVLI-----LG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WSREPPTCRIVDCGKPAQPNKG---FCDSPDVTTYKSETDCGCIDAYHFTTEMNGVFTCN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLPCSHVTAPVHGSIEPVQATYSFKDRVVFSCDIGYRLIQQEDGKEVPATLQVECQKDGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EIDTCPYDSLTIRSGGEEWGPLCGTTLPDPIETRGFEVEVVFRSDTSGQNKGWNLHYTAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHP
CONTAINS 2 CUB DOMAINS.
BELONGS TO PEPTIDASE FAMILY
                                                                                                                                                                                                                                                                                                                                                            Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ą
S1;
  ALSO
  KNOWN
                                                                                     Allografted
AS
THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              711
                                                                                          Mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                237
```

CUB\_domain. EGF-like.

EGF\_Ca.

B

649 QDACQGDSGGVFAVRDRNRDIWVATGIVSWG-IGCGEG--YGFYTKVLNYVDWIKKEMGD

```
οy
                                밁
                                                          Qy
                                                                                               В
                                                                                                                           Qy
                                                                                                                                                                Вþ
                                                                                                                                                                                           Qy
                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                무
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PEAM: PF00008; EGF; 1.

PEAM: PF00008; EGF; 1.

PEAM: PF00008; EUSF; 1.

PEAM: PF00008; EUSF; 1.

PEAM: PF00008; EUSF; 1.

PEAM: PF00008; EUSF; 1.

SMART; SM000032; CCP; 2.

SMART; SM000032; CCP; 2.

SMART; SM000181; EGF; 1.

SMART; SM001079; EGF; CA; 1.

SMART; SM001079; EGF; CA; 1.

SMART; SM001079; EGF; 2.

PROSITE; PS00110; TYP_SPC; 1.

PROSITE; PS001180; EGF; 2.

PROSITE; PS01180; EGF; 2.

PROSITE; PS01180; EGF; 2.

PROSITE; PS01187; EGF; 1.

PROSITE; PS01187; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR001881;
InterPro; IPR001254;
InterPro; IPR000436;
                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                 541
                                                                                                                                                                  481
                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                 352
                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
                                                                                             ----RVIIHPDYRQDEPNNFEGDIALLELENSYTLGPELLPICLP--DNETFYGQGLMGY
                                                                                                                                                                               LGGTTAAGALLYDNWVLTAAHAVYEQKHDAS-----ALDIRMG-----TLKRLSPHYTQ
                                                                                                                                                                                                                                                                                                                   GSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGK---
                                                                                                                                                                                                                                                                                                                                                                               YTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS
                                                               ASGWGLTQRGFLARNLMYVDIPIVDHQKC----TAAYEKPPYPRGSVTANMLCAGLESGG
                                                                                                                                                              TTHGRGGGALLGDRWILTAAHTIYPKHHNKENDNANPKMLVFLGHTNVEQIKKLGHHPVR
                                                                                                                                                                                                                                                                                               GTWHRAMPRCKIKNCGQPQSLSNGDFRYITTKGVTTYEASIQYHCHEPYYKMLTRAGSSE
                                                                                                                                                                                                                                                                                                                                                                                                                               IDDHQQVHCPYDQLQIYANGKNLGEFCGKQRPPDLDTSSNAVDLLFFTDESGDSRGWKLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                 VETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NEENGTIMFYKGFLAYYQAVDLDECASQPNSVEEGLQPRCQHLCHNYVGGYFCSCHPGYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QFDVEPSEGCFYDYVKISADKQTLGRFCGQLDSPLGNPPGRKEFMSQGNKMLLTFHTDFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFT
KDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISD
                              VSGFGITE-DKLAFDLRFVRLPVADSEACQRWLQTKKDTSPF----SQNMFCSGDPAVQ
                                                                                                                              AWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGT
                                                                                                                                                                                                                               SMRGIYTCTAQGIWKNEEEGEKMPRCLPVCGKPVNPVTQKERIIRGQPARPGNFPWQAFT
                                                                                                                                                                                                                                                    ----YVCEADGFWTSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLI
                                                                                                                                                                                                                                                                                                                                                               YTTETIKCPQPKALDEFTIIQDPQPQYQFRDYFIVTCKQGYQLMEGNQALLSFTAVCQND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NEKP-----FTGFEAFYAAEDIDECQVAP-----GEAPTCDHHCHNHLGGFYCSCRAGYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVTLFYGVEGSIYL-----POKLYGEVTSPLYPKPYPSDLETTTVITVPMGYRVKLVFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protease; Serine protease.
707 AA; 80142 MW; CC90F1163A52D824 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative 120; Mismatches 260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36.8%;
39.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1384; DB 11;
Pred. No. 3.5e-110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               707;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                              462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                648
                                                               625
                                                                                                                                                                                             511
                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                               409
                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                               594
                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16;
```

```
RESULT
Q99KI6
                                                              Qy
                                                                                           DЪ
                                                                                                                   Ωy
             20
                                        밁
                                                                                                                                                В
                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                           Pfam; PF00084; Sushi; 2.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR0072; CCP; 2.

SMART; SM00032; CCP; 2.

SMART; SM00181; EGF; 1.

SMART; SM00179; EGF_CA; 1.

SMART; SM00179; EGF_CA; 1.

SMART; SM00179; EGF_CA; 1.

PR0SITE; PS00110; ASX_HYDROXYL; UPPROSITE; PS01180; CUB; 2.

PROSITE; PS01186; EGF_CA; 1.

PROSITE; PS01186; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR0001534; Chymotrypsin.
InterPro; IPR000859; CUB_domain.
InterPro; IPR000851; EGF-like.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR000436; Sushi_SCR_CCP.
Pfam; PF00031; CUB; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00135; TRYPSIN_DOM; 1.
Calcium-binding; EGF-like domain; Glycoprotein; Hydrolase; Serine protease.
SEQUENCE 707 AA: RANGE NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.;
Submitted (MAR-2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; BC004637; AAH HSSP; P00736; 1APQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (MAR-2001) to the EMBL/GenBank/DDBJ di
-!- SIMILARITY: CONTAINS 2 CUB DOMAINS.
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MGD; MGI:1355313;
               173
                                                                  123
                                         121
                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                      63
                                                                                                                                                  7
                                                                                                                                                                            w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRYPSIN FAMILY
                                                                                                                                                               LITLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFT
LHRNKRTCSALCSGQVFTQRSGELSSPEYPRFYPKLSSCTYSISLEEGFSVILDFVESFD
                                                                                           QFDVEPSEGCFYDYVKISADKQTLGRFCGQLDSPLGNPPGSKEFMSQGNKMLLTFHTDFS
                                                                                                                      HFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS 122
                                        NEENGTIMEYKGFLAYYQAVDLDECASQPNSVEEGLQPRCQHLCHNYVGGYFCSCHPGYE
                                                                 NEKP----FTGFEAFYAAEDIDECQVAP-----GEAPTCDHHCHNHLGGFYCSCRAGYV 172
                                                                                                                                                LVTLFYGVEGSIYL-----PQKLYGEVTSPLYPKPYPSDLETTTVITVPMGYRVKLVFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF00008; EGF;
                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S01.192;
                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAH04637.1;
                                                                                                                                                                                                                  36.7%; Score 1381; DB 11; 39.2%; Pred. No. 6.3e-110;
                                                                                                                                                                                                      119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                 UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALSO KNOWN
                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                              707;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AS
                                                                                                                                                                                                     58;
                                                                                                                                                                                                                                                                                   Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE
                                                                                                                                                                                                    Gaps
                                                                                           120
                                                                                                                                                60
                                                                                                                                                                            62
               232
                                                                                                                                                                                                      16;
```

40;

18;

59 60

177 180

296

237

```
RESULT
Q8VBY4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                  Submitted (DEC-2001) to the EMBL/GenBank/DDBJ day
EMBL; BC022123; AAH22123.1; -.
EMBL; BC018319; AAH18319.1; -.
InterPro; IPR00152; Asx_hydroxyl.
InterPro; IPR00152; Asx_hydroxyl.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000155; EGF-1ike.
InterPro; IPR000859; CUB_domain.
InterPro; IPR000851; EGF_Ca.
InterPro; IPR001244; Ser_protease_Try.
InterPro; IPR001245; Ser_protease_Try.
InterPro; IPR001254; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Subcomponent).

Mus musculus (Mouse).

Eukaryota; Metazoa; C

Mammalia; Eutheria; R

NCBI_TaxID=10090;

[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QBVBY4;
01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 77.4 kDa protein (Similar to complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=LIVER;
Strausberg R.;
Submitted (JAN-2002)
                                                                                                                                                                                                                                                                                                                                                            Strausberg
                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-LIVER
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q8VBY4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THGRGGGALLGDRWILTAAHTIYPKHHNKENDNANPKMLVFLGHTNVEQIKKLGHHPVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ASGWGLTQRGFLARNLMYVDIPIVDHQKC----TAAYEKPPYPRGSVTANMLCAGLESGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGGTTAAGALLYDNWVLTAAHAVYEQKHDAS-----ALDIRMG-----TLKRLSPHYTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSGFGITE-DKLAFDLRFVRLPVADSEACQRWLQTKKDTSPF----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMRGIYTCTAQGIWKNEEEGEKMPRCLPVCGKPVNPVTQKERIIRGQPARPGNFPWQAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----YVCEADGFWTSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTWHRAMPRCKIKNCGQPQSLSNGDFRYITTKGVTTYEASIQYHCHEPYYKMLTRAGSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDDHQQVHCPYDQLQIYANGKNLGEFCGKQRPPDLDTSSNAVDLLFFTDESGDSRGWKLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LQKDGQSCQAECSSELYTEPSGYVSSLEYPQPYPPDLRCNYSIRVERGLTVHLKFLDPFE
                                                                                                                                                                                                                                                                                                                                                                                                          FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
      CCP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ą
                                                                                                                                                                                                                                                                                                                                         databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQNMFCSGDPAVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        component
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
Q8R099
ID Q8
AC Q8
DT 01
DT 01
DT 01
DE S1
OS MG
                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00042; CUB; 2.

SMART; SM00179; EGF_CA; 1.

SMARR; SM00109; EGF_CA; 1.

SMARR; SM00020; Tryp_SPG; 1.

PROSITE; PS00101; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01187; EGF_CA; UNKNOWN_1.

PROSITE; PS01187; EGF_CA; UNKNOWN_1.

PROSITE; PS01037; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; UNKNOWN_1.

HyDOLHACICAL PROTEIN.

SEQUENCE 694 AA; 77415 MW; 06AA125D5E822;
           OBR099 PRELIMINARY; PRT; 694 AA.
0BR099;
01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Similar to complement component 1, s subcomponent.
                                                                                                                                                                                                                                             649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               178
                                                                                                                                                                                                                                                                                                                                     591
                                                                                                                                                                                                                                                                                                                                                                                                                          531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                            22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 38.7 nes 270; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
  musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TVPKFYVAGLVSWGK----RCGTYGVYTKVKNYVDWI
                                                                                                                                                                                                                                                                                    ETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                  AKVPVTSLETCKQVKEENPTVRPEDYVFTDNMICAG--EKGVDSCHGDSGGAFAFQVPNV
                                                                                                                                                                                                                                                                                                                                                                          VDIPIVDHQKCTAAYEKPPYPRGS---VTANMLCAGLESGGKDSCRGDSGGALVFL--DS
                                                                                                                                                                                                                                                                                                                                                                                                                     NEDNDIALVQLKDPVKMGPKVSPICLPGTSSEYNVSPGDMGLISGWGSTEKKVFVINLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                             GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NEYWVLTAAH-VLEKISDPLMYVGTMSVRTTLLENAQRLYSKRVFIHPSWKKEDDPNTRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHD-----A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GRWVNDQLGIELPRCIPACGVPTEPFQVHQRIFGGQPAKIENFPWQV-FFNHPRASGALI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVND-GKYVCEAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GNCP-DSLTFASKNQQFGPYCGNGFPGPLTIRTQSNTLGIVFQTDLMGQKKGWKLRYHGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLCPYDFLKIQTDREEHGPFCGKTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FSNEERFTGFAAYYTAIDINECTDFT-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMRNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FTHVDIEPSESCAYDSVQIISGGIEEGRLCGQKTSKSPNSPIIEEFQFPYNKLQVVFTSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MWCLVLFSLLASFSAEP-----TMHGEILSPNYPQAYPNDVVKSWDIEVPEGFGIHLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SGLKCQPVYCGIPDPIANGKVE---EPENSVFGTVVHYTCEEPYYYMEHEEGGEYRCAAN
(Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         32.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1232; DB 11;
Pred. No. 4.1e-97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06AA125D5E8227F5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                             681
                                                                                                                                                                                                                                                                                    679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
```

471 473 412 415 355

527

SSEEPPPA H

Š 밁 õ 밁 9

В Š δ

Ş

В δ 밁

g

Υ.,

Sakai

its

expression

ALSO

```
RESULT
O70542
ID O7
AC O7
DT 01
DT 01
DT 01
DT 02
DE S6
OS RE
                                                                                                                                                                ρy
                                                                                                                                                                                                В
                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SO REAR RANGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 261
  01-AUG-1998 (TrEMBLrel. (
01-AUG-1998 (TrEMBLrel. (
01-JUN-2002 (TrEMBLrel. ;
Serine protease.
Rattus norvegicus (Rat).
                                                                 070542
070542;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Strausberg R.; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases EMBL; BC027183; AAH27183.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=SALIVARY GLAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                664
                                                                                                                                                                                                                                                                                                                                                                                                          378
                                                                                                                                                                                                                                                                                                                                                                                                                                  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                            318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
                                                                                                                                                                                                                                                                                                     491
                                                                                                                                                                                                                                                                                                                             493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Simhes 261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24
                                                                                                                                             KCGTYGIYTKVKNYVDWI
                                                                                                                                                          EAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                               TVAPICLPETSSDYNPSEGDLGLISGWGRTENRTNVIQLRGAKLPITSLEKCQQVKVENP
                                                                                                                                                                                                                                                                                                                                                                                                       GIEEERLCGQRTSKSPNSPIVEEFQFPYNRLQVVFTSDFSNEERFTGFAAYYSAVDVNEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP-VFGRLASPGEPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                        YPRGS----VTANMLCAGLESGGKDSCRGDSGG--ALVFLDSETERWFVGGIVSWGSMNCG
                                                                                                                                                                                                                                                                 MYVGSTLLKIERLR-NAQRLITERVIIHPSWKQEDDLNTRTNFDNDIALVQLKDPVKMGP
                                                                                                                                                                                                                                                                                                                    TEPFKVQQRIFGGYSTKIQSFPWQVYFESPRGG----GALIDEYWVLTAAHVVEGNSDPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EPTMYGEILSPNYPQAYPNEVVKTWDIEVPEGFGIHLYFTHLDMELSENCAYDSVQIISG
                                                                                                                                                                                               KARSNDYVFTDNMTCAG--EKGVDSCEGDSGGAFALPVPNVKDPKFYVAGLVSWGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                         VFKDVVKITCVDGFEVVEGNVGSTSFYSTCQSNGQWSNSRLECQPVDCGVPEPIENGKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDFT-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMRTCGVNCSGDVFTALIGEIASPNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                                                                                                                                                                                                                                                                              AR--TTGGRIYGGQKAKPGDFPWQVLI---LGGTTAAGALLYDNWVLTAAHAVYEQKHDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NGFPGPLTIKTQSNTLDIVFQTDLTGQNKGWKLRYHGDPIPCPKEIS-ANSIWEPEKAKY
protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 38.5
61; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          694 AA;
                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77713 MW; 455A9EE10C8CC12F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32.4%;
                            07,
07,
21,
                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109;
                          Created)
Last sequence up
Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1217;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                               694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .9e-96;
                                                                               AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 11;
                                         update)
                          update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                694;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                          606
                                                                                                                                                                                                                                                                                                                            546
                                                                                                                                                                                                                                                                                                                                                     490
                                                                                                                                                                                                                                                                                                                                                                               492
                                                                                                                                                                                                                                                                                                                                                                                                                               437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142
                                                                                                                                                                                                                                                                                                                                                                                                                                                          377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19;
                                                               20
                                                                                          Ъ
                                                                                                                  Qy
                                                                                                                                           В
                                                                                                                                                                  QΥ
                                                                                                                                                                                               망
                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 262
                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00084; SIShi; 2.

R Pfam; PF00089; trypsin; 1.

R PFINTS; PR00722; CHYMOTRYPSIN.

R SMART; SM00032; CCCP; 2.

R SMART; SM00042; CUB; 2.

R SMART; SM000179; EGF_CA; 1.

R SMART; SM00010; ASX_HYDROXYL; UNKNOWN_1.

R PROSITE; PS01180; CUB; 2.

R PROSITE; PS01187; EGF_CA; 1.

R PROSITE; PS01187; EGF-like domain; Glycoprotein; Hydrolase; Prc W Repeat; Serine protease.

W SEQUENCE 694 AA; 77788 MW; CDCOADFCEFFEECO5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Molecular cloning of a cDNA encoding complement Cls precursor from rat C6 during glial differentiation."; Gene 209:87-94(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00008; EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000436; Pfam; PF00431; CUB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; D88250; BAA25797.1; HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. MEDLINE=98192519; PubMed=9524231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sakai H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10116; [1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEROPS; S01.193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: CONTAINS
-!- SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                          259
                                                                                                                  261
                                                                                                                                           200
                                                                                                                                                                      203
                                                                                                                                                                                               142
                                                                                                                                                                                                                       143
                                                                                                                                                                                                                                                                                                                                                     Local Si
hes 262;
                                                                                                                                                                                                                                                                                                                          24
                                                                                                                                                                                                                                                                                                    22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRYPSIN FAMILY
                                                                                                                                                                                                                                              YITGPGVTTYKAVIQYSCEETFYTMKVND-GKYVCEADGEWTSSKGEKSLPVCEPVCGLS
                                                       ILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVE
                                                                                                        KTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                          RPYPKLSSCTYSISLEEGFSVILDF-VESFDVE-THPETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                         QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                                                                                                                                                                                                 VFKDVVKITCVDGFEVVEGNVGSTSFYSTCQSNGQWSNSRLECQPVDCGVPEPIENGKVE
                                                                                          NGFPGPLTIKTQSNTLDIVFQTDLTGQNKGWKLRYHGDPIPCPKEIS-ANSIWEPEKAKY
                                                                                                                                           NPYPENSRCEYQIRLQEGFRLVLTIRREDFDVEPADSEGNC-HDSLTFAAKNQQFGPYCG
                                                                                                                                                                                                TDFT-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMRTCGVNCSGDVFTALIGEIASPNYP
                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IPR001881;
IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nakashima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR001314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR000561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR000152;
                                                                                                                                                                                                                                                                                                                                                     Conservative 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONTAINS 2 CUB DOMAINS.
BELONGS TO PEPTIDASE FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              s.
                                                                                                                                                                                                                                                                                                                                                   32.3%; Score 1214; [
38.6%; Pred. No. 1.46
tive 108; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Asx_hydroxyl
Chymotrypsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CUB_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGF_Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yoshimura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a serine protease glial cells and i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nishimura
                                                                                                                                                                                                                                                                                                                                                                 .4e-95
                                                                                                                                                                                                                                                                                                                                                                              DB 11;
                                                                                                                                                                                                                                                                                                                                                     268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S1;
```

Length

694;

Protease

40;

Gaps

19;

318 317

```
RESULT OF COLOR OF CO
           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
SMART: SMOO179; EGF_CA; 1.

SMART: SMOO020; Tryp_SPC; 1.

SMART: SMOO020; Tryp_SPC; 1.

PROSITE; PSO01010; ASX_HYDROXYL; 1

PROSITE; PSO1180; CUB; 2.

PROSITE; PSO1187; EGF_C; 1.

PROSITE; PSO1187; EGF_CA; 1.

PROSITE; PSO0135; TRYPSIN_DOM; 1.

PROSITE; PSO0135; TRYPSIN_SER; 1.
                                                                                             pfam; pF00431; CUB; 2.
pfam; pF00008; EGF; 1.
pfam; pF000084; Sushi; 2.
pfam; pF00089; trypsin; 1.
pfam; pF00099; trypsin; 1.
prints; pR00722; CHYMOTRYPSIN.
SMART; SM00032; CCB; 2.
SMARR; SM00042; CUB; 2.
SMART; SM00181; EGF; 1.
SMART; SM00191; EGF; 1.
SMART; SM00191; EGF; 1.
SMART; SM00101; ASX_HYDROXYL;
PROSITE; PS00010; ASX_HYDROXYL;
                                                                                                                                                                                                                                                                                                     Interpro; IPR000152; A
Interpro; IPR001314; C
Interpro; IPR000859; C
Interpro; IPR000561; E
Interpro; IPR001881; E
Interpro; IPR001254; S
Interpro; IPR001254; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2001
01-MAR-2001
01-JUN-2002
C1rs-B prote
C1RS-B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cyprinus carplo (Common carp).

Bukaryota; Metazoa; Chordata; Craniata;
Actinopterygli; Neopterygli; Teleostei;
Cyprinidae; Cyprinus.

NCBI_TaxID=7962;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=21115142; PubMed=11220628;
Nakao M., Ohsaka K., Kato Y., Fujiki K.,
"Molecular cloning of complement Clr/Cls/
from the common carp (Cyprinus carpio).";
Immunogenetics 52:255-263(2001).
-1- SIMILARITY: CONTAINS 2 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AB042610; BAB17846.1; HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-HEPATOPANCREAS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9DGC1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9DGC1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: CONTAINS 2 CUB DOMAIN SIMILARITY: BELONGS TO PEPTIDASE TRYPSIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KCGTYGIYTKVKNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TVAPICLPETFSDYNPSEVDLGLISGWGRTEIRTNVIQLRGAKLPITSLEKCQQVKVENP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AR--TTGGRIYGGQKAKPGDFPWQVLI---LGGTTAAGALLYDNWVLTAAHAVYEQKHDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KARSNDYVFTDNMICAG---EKGVDSCEGDSGGAFALPVPNVKDPKFYVAGLVSWGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YPRGS---VTANMLCAGLESGGKDSCRGDSGG--ALVFLDSETERWFVGGIVSWGSMNCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MYVGSTLLKIERLR-NAQRLITERVIIHPSWKQEDDLNTRTNFDNDIALVQLKDPVKMGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TEPFKVQQRIFGGYSTKIQSFPWQVYFESPRGG----GALIDEYWVLTAAHVVEGNSDPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -DPEDTVFGSVIHYTCEEPYYYMEQEEGGEYHCAANGSWVNDQLGVELPKCIPVCGVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 (TrEMBLrel.
1 (TrEMBLrel.
2 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY
                                                                                                                                                                                                                                                                                                                                                             Chymotrypsin.
CUB_domain.
EGF-like.
                                                                                                                                                                                                                                                                                                     EGF_Ca.
Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                     Asx_hydroxyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16,
16,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
Last sequence up
Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                   <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Euteleostomi;
Ostariophysi; Cypriniform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yano T.;
/MASP2-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             492
                                                                                                                                                                                                                                                                  RESULT
Q9DGC0
     Š
                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                            666
                                                                                                                                                                                                                                                                                                                                                                                                                                                      610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   203
                                                                                                                                                                                                                                                                                   25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24
```

```
Query Match
                                                                                                                                                                      Q9DGC0
Q9DGC0;
Q1-MAR-2001
01-MAR-2001
01-JUN-2002
                                                                                                                                   Clr/s-B PC1R/S-B.
                            Cyprinus carpio (Common carp).
Eukaryota; Metazoa: Chordata: Craniata; Vertebrata; Euteleostomi;
Actinopterygii: Neopterygii: Teleostei; Ostariophysi; Cypriniform
Cyprinidae; Cyprinus.
NCBI_TaxID=7962;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGF-like domain; Glycoprotein; Serine protease. SEQUENCE 685 AA; 76838 MW;
SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
es 247; Conserv
                                                                                                                                                                                                                                                                                                                                                       -AYYTKVENYLGWIEETMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSVTANMLCAGLESGGKDSCRGDSGGALVF----LDSETERWFVGGIVSWGSMNCGEAGQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGGITEARNQNPVIMEA--EKIIHPKYQRVSLRGHQTNYDNDIALIKMSARVPLGPNIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGPGVTTYKAVIQYSCEETFY----TMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKSPGVLNTGANFVQLEYHTDRYGQSQGWSIHYTTQRVQCPHPGIIGNGTITPNFAQYLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KTLPHRIETKSNTVTITEVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                                                         YGVYTKVINYIPWIENIISD
                                                                                                                                                                                                                                                                                                                                                                                                                                -- VSKNMFCAGDDVEHVDSCQGDSGGPLFFPMLGHGSKEQRYEVRGIVSWGPVRCGDVSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PVCLPNKTHESVME-GTMGTVSGFGGFKEGLTSEILRYGHIREYPSEKC--VFGKMP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 {\tt NTEVSFGGRVFGGMQARPGQIPWQLLHKMHTRGGASLISDYWALTAAHVVDGLENTTMTW}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DVSPLNLDCIYTISVQPGYMITLNFSQNFHIEQVYNQGQTCLFHWLQVSVPGKKPEKYCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSSSVENAPCSQICLNTLGSYLCACHHGYMLRPDQRTCVLECGGGVHSESEGTISSPGFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SGEN-NEYLSVIEYRCNEPYYRFKDTAKVT---YRCAVERKWTEVNNNDIIPPCYPECGM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RDYIHVRCMPGYKLMMGEKEILSFKSICQSNGKWHLTLPECKIIDCGAPKQLLNGDFQFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RPYPKLSSCTYSISLEEGFSVILDFVESFDVET - - HPETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                  -2001 (TrEMBLrel. 16, 0
-2001 (TrEMBLrel. 16, 1
-2002 (TrEMBLrel. 21, 1
B protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36.3%;
                                                                                                                                                                                                                                                                                                                                                       684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      115;
                                                                                                                                                                      Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1158; DB 13;
Pred. No. 9.3e-91;
.5; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 169BBFD8A8A745BD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase; Hydroxylation;
                                                                                                                                                                                                                                                       AA
                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                           Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14;
```

```
δÕ
                                                                     В
                                                                                                  οy
                                                                                                                                           Ъ
                                                                                                                                                                    δÃ
                                                                                                                                                                                                             В
                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                  Ър
                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPRO0152; Asx_hydroxyl.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR001859; CUB_domain.
InterPro; IPR001861; EGF-like.
InterPro; IPR001861; EGF-like.
InterPro; IPR001254; Ser_protease_Tr
InterPro; IPR001254; Sushi_SCR_CCP-
pfam; pF000431; CUB; 2.
pfam; pF000080; EGF; 1.
pfam; pF000089; trypsin; 1.
pfam; pF000089; trypsin; 1.
pfam; pF000089; trypsin; 1.
SMART; SM000722; CHYMOTRYPSIN.
SMART; SM000141; EGF; 1.
SMART; SM000142; CUB; 2.
SMART; SM00181; EGF; 1.
SMART; SM00181; EGF; 1.
SMART; SM00181; EGF; 1.
SMART; SM00181; EGF; 1.
SMART; SM00180; CUB; 2.
SMART; SM00180; EGF_CA; 1.
SMART; SM00180; CUB; 2.
SMART; SM00176; EGF_CA; 1.
SMART; SM00176; EGF_CA; 1.
PROSITE; PS01186; EGF_2; 1.
PROSITE; PS01186; EGF_2; 1.
PROSITE; PS01187; EGF_CA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       serine protease.
SEQUENCE 685 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AB042611; BAB17847.1; -. HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=HEPATOPANCREAS;
MEDLINE=21115142; PubMed=11220628;
                                    440
                                                                                                        381
                                                                                                                                             320
                                                                                                                                                                              321
                                                                                                                                                                                                                260
                                                                                                                                                                                                                                                                                                                                                        140
                                                                                                                                                                                                                                                                                                                                                                                           143
                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                              83 AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
nes 244; Conserv
                                                                                                                                                                                                           GKSPGVLNTGANFVQLEYHTDRYGQSQGWSIHYTTQRVQCPHPGIIGNGTITPNFAQYLY
                                TT-GGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIR
                                                                                       KDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYI
                                                                                                                                                                                                                                 KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYIL
                                                                                                                                                                                                                                                                               DVSPLNLDCIYTISVQPGYMITLNFSQNFHIEQVYNQGQTCLFHWLQVSVPGKKPEKYCG
                                                                                                                                                                                                                                                                                                                                                      SSSSVENAPCSQICLNTLGSXLCACHHGYMLRPDQRTCVLECGGGVHSESEGTISSPGFP
                                                                                                                                                                                                                                                                                                                                                                          QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHEDLELSHLCEYDFVKLSSG
                                                                   SGEN-NEYLSVIEYRCNEPYYRFKDTAKATYRCAVDRKWTEVNNNDIIPPCYPECGMNTE
                                                                                                                                                                                                                                                                                                                  RPYPKLSSCTYSISLEEGFSVILDFVESFDVET--HPETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                          NKVLGKFCGQNSTDRFH-PGDKPILAPHNRLQLVFLTDVSNHELHIGFTAFYQAVDIDEC
VSFGGRVFGGMQARPGQIPWQLLHKMHTRGGASLISDYWALTAAHVVDGLENTTMTWLGG
                                                                                                                                       RDYIHVRCMPGYKLMMGEKEILSFKSICQSNGKWHLTLPECKIIDCGAPKQLLNGDFQFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EPAMFGEVSSPQYPQPYPANFQEQWDLEVPQGYQIQLTFNHLDIEPSPDCYYDSVSVVSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         685 AA; 76831 MW; E49B1891D7280F36 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative 116; Mismatches 289; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1158; DB 13
Pred. No. 9.3e-91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hydrolase; Hydroxylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        685;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                             142
 498
                                                                     438
                                                                                                                                                                          380
                                                                                                                                                                                                             319
                                                                                                                                                                                                                                                320
                                                                                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13;
```

```
B
              QΥ
                              밁
                                             Qy
                                                               밁
                                                                           Qy
                                                                                              밁
                                                                                                             Qy
899
               669
                               609
                                              613
                                                               557
                                                                              553
                                                                                               499
                                                                                                             499
                                        YTKVENYLGWIEETMAN 684
         YTKVINYIPWIENIISD
                            LPNKTHE-FVMEGTMGTVSGFGGFKEGLTSEILRYGHIREYASEKC--VFGKMP-----I
                                                                           LPRKEAESEMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSV
                                                                                             TEARNQNPVIMEA--EKIIIHPDYQRVSLRGHQTNYDNDIALIKMSARVPLGPNIRPVC
                                                                                                       685
                               667
                                                               809
                                                                              612
                                                                                               556
```

Search completed: January 23, 2003, 22:19:54 Job time: 96 secs

Run

8

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on:
             27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the score greater the and is derived by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
BG
           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   490
490
70.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Issued_Patents_AA:*

1: /cgn2_6/ptodata/1,

2: /cgn2_6/ptodata/1,

3: /cgn2_6/ptodata/1,

4: /cgn2_6/ptodata/1,

5: /cgn2_6/ptodata/1,

6: /cgn2_6/ptodata/1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is the number of results predicted by chance to have ater than or equal to the score of the result being partied by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2
3758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         262574 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          January 23, 2003, 22:14:16;
           MRLLTLLGLLCGSVATPLGP......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyright
                                                                              /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/Packfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
         GenCore version (c) 1993 - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gapext 0.5
    US-09-027-337-2
US-09-644-600-2
US-08-296-014A-4
US-08-296-014A-2
US-08-296-014A-2
US-08-296-014A-2
US-08-397-620-2
US-08-394-483-29
US-09-644-600-10
US-08-95-471-3
US-08-95-471-3
US-08-95-471-3
US-08-95-1024-2
US-08-95-1024-2
US-08-95-1024-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1025-2
US-08-95-1026-1
US-09-021-287-5
US-09-021-287-5
US-09-240-473-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (without 1009.206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search time 20 Seconds without alignments) 009.206 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ltd
                                                                                                                                                                                  Sequence
Patent No.
                         Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                               Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      printed,
      2, Appli
4, Appli
4, Appli
2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
3, Appli
3, Appli
3, Appli
3, Appli
3, Appli
3, Appli
1, 
NUMBER OF SEQ ID NOS: 13

SEQ ID NO 2
LENGTH: 855
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: Amino acid softens
OTHER INFORMATION: 23 to 2589 o
                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
US-09-027-337-2
                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/027,337B
CURRENT FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTACHERIA
```

	75	74	73	72	71	70	69	8	67	99	65	64	63	62	61	0	59	ب ص	57	50	5	54	ωi	5 1	5	5 4	φ.	4 /	6		44			1 0	2 6	.38	37	36	35	34	ω ω	32	31	3 (	29	သ ဆ
	70.		37	7	75.	75.		75.	7	7	7	7	7	7	7	7	8	8	χ (	8	8	80	∞ (	ω 1	80	ဘာဝ	οα	σ	œ	387	89.		91,	֓֞֝֝֝֝֝֝֝֝֝֝ ס		93	96.	96.	9	9	0	0	0		400	
	-			•	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0 :	0	0	0	0 !	0 :	9.5	9.0	.0	0	0	0	0 9	٥.	٥.	.0	0	0	0	0	0	0.	0 :	0 :	10.6	0
	241	241	461	461	306	306	306	306	251	615	615	615	615	579	579	579	730	579	461	460	460	419	419	419	419	410	4 0	400	622	461	461	235	251	ر ا د	1013	2	98	788	416	488	591	591	437	415	415	415
	۲	٢	თ	σ	<u></u>	<u> </u>	_	_	4	G.	ب	$\vdash$	Ļ	ហ	Ν	<u> </u>	4	ω	י עכ	2	ν,	ß,	4	N I	щ,	1 4	4.	4	· w	σ	σ	4	4	ء د	× N	N	4	٢	N	Н	4	w	ь,	лı	۱ د	_
ALIGNMENTS	-08-474-042-	-08-330-97	70178-18	70178-1	-08-774-592-	-08-484-558-	4	-08-330-978-	-08-944-483-	r-us92-11357-	-08-462-261-	-08-463-953-3	-07-998-972A	T-US92-10242-	08-955-471-	08-295-411-	08-872-757-2	09-117-708-	5537-2	08-756-506-	08-756-506-2	-US92-10242	09-667-570A-	08-955-471-	08-295-411-1	09-66	09-66/-5/0A	09-065-8/2-2	08-952-967-	3-3	0178-2	08-944-483-	08-944-483-2	09-487-037-	09-041-287-	08-866-650-	08-872-757-	08-572-225-	-09-000-846-	S-08-487-037-	5-09-432-473-	S-08-991-408-	08-487-037-2	CT-US92-10242	US-08-955-471-2	08-295-411-
	4, Appl	equence 4, Appl	tent No. 527017	tent No. 527017	equence 1, Appl	equence 1, Appl	ē 1,	equence 1, Appl	equence 47, App	3, Appl	, Appl	3, Appl	ω	equence 4, Appl	equence 4, App	equence 4, App	equence 2. A	nce 14. App	tent No. 522553	equence 4. A	equence 2. Appl	equence 1, Appl	equence 3. Appl	e 1	equence 1. Appl	Sequence 1, Appir	equence 2, Appl	0 0	equence 8, Appl	tent No. 54	tent No. 527017	equence 48, App	equence 28. App	equence 3,	י נט	equence 3,	equence 4,	equence 1,	equence 2,	equence	equence 4,	equence 4, App	e 2, App	equence 2,	Sequence 2, Appli	equence 2. An

```
Sequence 2, Application US/09027337B
Patent No. 5972616
GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TADG-15: An Extracellular Serine Protease Overexpressed
TITLE OF INVENTION: Breast and Ovarian Carcinomas
FILE REFERENCE: D664
sequence of of Sequence
      TADG-15
                          encoded
                        уd
                        nucleotides
```

'n

```
US-09-644-600-2
                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                    RESULT 2
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Patent No. 5972616
US-09-027-337-2
           GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TADG-15: An Extracellular Serine:
TITLE OF INVENTION: Overexpressed in Carcinomas
FILE REFERENCE: D6064CIP/D
CURRENT APPLICATION NUMBER: US/09/644,600
CURRENT FILING DATE: 2000-08-23
                                                                                                                           Sequence 2, Application US/09644600 Patent No. 6451500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                   783
                                                                                                                                                                                                                                                                                                                                                    552
                                                                                                                                                                                                                                                                                                                                                                             684
                                                                                                                                                                                                                                                                                                                                                                                                         492
                                                                                                                                                                                                                                                                                                                                                                                                                                    624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                                                                                                          731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29 RLASPGEP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                        CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                                                                              RLPLFRDWIK 850
                                                                                                                                                                                                                                       KVINYIPWIE 680
                                                                                                                                                                                                                                                                 QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                                        SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                     CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                             RSAPGVQERRLKRIISH-------PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACSIV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP------GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS 339
                                                                                                                                                                                                                                                                                                                                                                                                       ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                                                                                                                                                                                                                                   GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK-------HD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ILK------DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK-----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13.0%;
25.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09/421,213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90; Mismatches 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 490; DB 2; Pred. No. 4.6e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                             670
                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                             730
                                                                                                                                                                                                                                                                                                                                                                                                         551
                                                                                                                                                                                                                                                                                                                                                                                                                                                              491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                  610
                                                                                                                                                                                                                                                                                                                                                                                                                                   683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31;
                         RESULT 3
US-08-296-014A-4
                                                                                                                                                                 Š
                                                                                                                                                                                            Вр
                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                        Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: US-09-644-600-2
Sequence 4, Application US/08296014A Patent No. 5716834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 25.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR FILING DATE: 1999-10-20
PRIOR APPLICATION NUMBER: 09/027,337
PRIOR FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 98
SEQ ID NO 2
LENGTH: 855
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
                                                                                  841
                                                                                                                                       783
                                                                                                                                                                 611
                                                                                                                                                                                              731
                                                                                                                                                                                                                         552
                                                                                                                                                                                                                                                   684
                                                                                                                                                                                                                                                                              492
                                                                                                                                                                                                                                                                                                          624
                                                                                                                                                                                                                                                                                                                                    454
                                                                                                                                                                                                                                                                                                                                                               575
                                                                                                                                                                                                                                                                                                                                                                                          397
                                                                                                                                                                                                                                                                                                                                                                                                                      522
                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85
                                                                                                                                                                                                                                                                                                                                                                                                                                                ACSIV----
                                                                                  RLPLFRDWIK
                                                                                                             KVINYIPWIE 680
                                                                                  850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TADG-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13.0%;
25.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90;
```

```
29 RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                    SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT 670
                                                                                                                                                                   CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                           RSAPGVQERRLKRIISH-------PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                          GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C-----GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHALVOLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                               CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                   ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI 551
                                                                                                                                                                                                                                                                                                                                          GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ILK-------DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  {\tt IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 490; DB 4;
Pred. No. 4.6e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 184;
                                                                                                                                                                                                                                                                                                                                                                                                  ---- HD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                          683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         339
                                                                                                                                                                      610
                                                                                                                                                                                                                           730
                                                                                                                                                                                                                                                                                                                                                                                                  491
                                                                                                                                                                                                                                                                                                                                                                                                                                                         623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
                                                                                                                  782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31;
```

```
Ş
                                                                                                                                           망
                                                                                                                                                                               δ
                       Š
                                                               밁
                                                                                                                                                                                                                          ğ
                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-296-014A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: MUTPHY, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1781-:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
TELEFAX: (703)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS: LENGTH: 1019 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: HO, BOW TITLE OF INVENTION: The TITLE OF INVENTION: Sin TITLE OF INVENTION: rot NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIDIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION: NAME: Murphy, Jr., Geral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                569 TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS
                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                              558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    500 HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265 HRIET------KSNTV---TITF-VTDESGDHTG------WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  URRENT APPLICATION DATA: APPLICATION NUMBER: US,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Birch, Stewart, Kolasch & Birch STREET: 8110 Gatehouse Road, Suite 500 East CITY: Falls Church
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE
                                                         VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA
                                                                                                                                         DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY 842
                                                                                                                                                                               ---LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS----
                                                                                                                                                                                                                                                                                                        LPRLPLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ 731
                                                                                                                                                                                                                                                                                                                                                                                     GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR 671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI-.DGFYAGSSIRYSCEVLHYLS 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QP-----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                 ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG 568
                                                                                                                                                                                                                        GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA 785
                                                                                                                                                                                                                                                              GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ding,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jeak Ling
                                                                                                                                                                                                                                                                                                                                          -----YKAVIQ--YSCEETFYTMKVND 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12.5%; Score 470.5; DB 1; 28.1%; Pred. No. 2.7e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US/08/296,014A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches 187;
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #1.25
= = = : -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 137; Gaps
                                                                                                                                                                               514
                     628
                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                               387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26;
```

```
δÃ
                                                                                                                                                                         ρy
                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                      멍
                                                                                                                                             밁
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-596-405-4
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-596-405-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Applic Patent No. 5858706
                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 248345
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Murphy, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1781
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Ding, Jea
APPLICANT: HO, BOW
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                   408
                                                                                                                                                                                                                558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       903
                                                                     672 LPRLPLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ 731
                                                                                                                                                                  298
                                                                                                                                                                                                                                                                                     500 HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 557
                                                                                                                                                                                                                                                                                                                       265 HRIET------KSNTV---TITF-VTDESGDHTG-----
732 GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 8110 Gatch
CITY: Falls Church
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1019
                               GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA 961
                                                                                                                                          GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR 671
                                                                                                                                                                                                                QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                                                                                                                                                         151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
GY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/08596405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1019 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8110 Gatehouse Road, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Birch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jeak Ling
                                                                                                                                                                                                                                              -----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpio rotundicauda and Purification of Factor
                                                                                                                                                                                                                                                                                                                                                                           12.5%; Score 470.5; DB 28.1%; Pred. No. 2.7e-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stewart, Kolasch & Birch
house Road, Suite 500 East
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         zerald M.
28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/596,405
                                                                                                                                                                                                                                                                                                                                                         63; Mismatches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version
                                                                                                      ----YKAVIQ--YSCEETFYTMKVND
                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carcinoscorpius
Carcinoscorpius
                                                                                                                                                                                                                                                                                                                     ----- WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                           Indels 137;
                                                                                                                                                                                                                                                                                                                                                                                            Length 1019;
                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                        407
                                                                                                                                                                                                                614
                                                                                                                                                                             387
                                                                                                                                                                                                                                                                                                                                                           26;
```

```
B
                                                                           δÃ
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                               ; MOLECULE TYPE: protein US-08-877-620-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
                                                                                                                   Matches
                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: HO, BOW TITLE OF INVENTION: The TITLE OF INVENTION: Sin TITLE OF INVENTION: rot NUMBER OF SEQUENCES: 4 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-877-620-4
                                                                                                                                                                                                                                                                                                                                                                       NAME: Murphy, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1788
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, Version #1 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                        500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nence 4, Application US/08877620 nt No. 5985590 reral INFORMATION:
                                                                                                                                                                                                                                                                                                                         TELEFAX: (7. TELEFAX: 248345
  298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            962 CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              629 CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       903 VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Falls Church
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                    HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 557
                                                                           HRIET-----KSNTV---TITF-VTDESGDHTG------WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA 902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS-----
                                                                                                                 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG 568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22042
                                                                                                                                                                                                                                     amino acid
GY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Virginia
                                                                                                                                                                                                                                                                            1019 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8110 Gatehouse Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ding,
                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Birch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jeak Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C
                                                                                                                 12.5%; Score 470.5; DB 2; 28.1%; Pred. No. 2.7e-31; cive 63; Mismatches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Stewart, Kolasch & Birch
house Road, Suite 500 East
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/877,620
-CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08/596,405
                                                                                                                                                                                                                                                                                                                                                                                                                  1781-105P
                                                                                                                                                      Length
                                                                                                                                                        1019;
                                                                                                                 137;
                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    514
                                                                                                                   26;
```

```
RESULT 6
US-08-296-014A-2
                                                                                                                                                      В
                                                                               Вb
                                                                                                                                                                                       20
                                                                                                                                                                                                                                 Вр
                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                  629
                                                                                                                                                      903
                                                                                                                                                                                           569
                                                                                                                                                                                                                                 843
                                                                                                                                                                                                                                                                      515
                                                                                                                                                                                                                                                                                                          786
                                                                                                                                                                                                                                                                                                                                                463
                                                                                                                                                                                                                                                                                                                                                                                     732
                                                                                                                                                                                                                                                                                                                                                                                                                           408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   558
                                                                               962 CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1019
                                                                                                CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                      VTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMECAGYKKGRYDA
                                                                                                                                                                                       TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS 628
                                                                                                                                                                                                                               VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA 902
                                                                                                                                                                                                                                                                    ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG
                                                                                                                                                                                                                                                                                                          DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY
                                                                                                                                                                                                                                                                                                                                                ---LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR 671
                                                                                                                                                                                                                                                                                                                                                                                     GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                         GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPRLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----YKAVIQ--YSCEETFYTMKVND 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KSFTAVCQKDGSWDRPMPAC-SIVDC-GPPDDLPS-GRVEYITGPGVTT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                  683
                                                                                                                                                      961
                                                                                                                                                                                                                                                                    568
                                                                                                                                                                                                                                                                                                          842
                                                                                                                                                                                                                                                                                                                                                514
                                                                                                                                                                                                                                                                                                                                                                                                                           462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   614
```

```
Sequence 2, Application US/08296014A Patent No. 5716834 GENERAL INFORMATION:
                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                           REFERENCE/DOCKET NUMBER: 17
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
                                                                                                                                                                                               CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MULPHY, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Ding, APPLICANT: Ho, E
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
                                                                                           TELEFAX: 1. TELEFAX: 248345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Raisson Transman
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Falls Church
STATE: Virginia
                   TOPOLOGY:
                                  TYPE:
                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: U
                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Birch, Stewart, Kolasch & Birch
8110 Gatehouse Road, Suite 500 East
                                                 1083 amino acids
                                                                                                                          (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                 PatentIn Release #1.0, Version
                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jeak Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C
                                                                                                                                                                                                                                                                                            US/08/296,014A
                                                                                       2
                                                                                                                                                                                   1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proenzyme
```

1781-105P

```
RESULT 7
US-08-596-405-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-296-014A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 151;
APPLLIA...
APPLLIA...
EILING DATE:
FILING DATE:
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Murphy, Jr., Gerald M.
NAME: MURPHY, MURPHY, M.
NAME: MURPHY, MURPHY, M.
NAME: MURPHY, MURPHY, MURPHY, M.
NAME: MUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: 1
                                                                                                                                                                                                                             SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERAL INFORMATION:
APPLICANT: Ding, Jeak Ling
APPLICANT: Ho, Bow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uence 2, Application US/08596405 nt No. 5858706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265 HRIET-----KSNTV---TITF-VTDESGDHTG------WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Falls Church
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRGDSGGALVEL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----LGGTTAAGALLYDNWYLTAAHAYYEQKHDASALDIRMGTLKRLSPHYTQAWS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPEIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA 966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG 568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPRLPLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ 795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KSFTAVCQKDGSWDRPMPAC-SIVDC-GPPDDLPS-GRVEYITGPGVTT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8110 Gatehouse Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Birch, Stewart, Kolasch & Birch
110 Gatehouse Road, Suite 500 Eas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12.5%; Score 470.5; 28.1%; Pred. No. 2.9
                                                                                                                                                                                                                                                                                                         Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----YKAVIQ--YSCEETFYTMKVND 407
                                                                                                                                                                                                                                     US/08/596,405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
2.9e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1083;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26;
```

```
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-596-405-2
                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                US-08-877-620-2
                                                                                                                                                                                                                                                           Sequence 2, Application US/08877620 Patent No. 5985590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (703) 205-8050
TELEX: 248345
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                            TITLE OF INVENTION: The TITLE OF INVENTION: Sin-TITLE OF INVENTION: rot-NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS: 4
CORRESPET: BITCH, Step STREET: B110 Gatchous CITY: Falls Church STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 17
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 1083 amino acids
                                                                                                                                                                                                          APPLICANT: Ding, Jeak Ling APPLICANT: Ho, Bow
                                                                                                                                                                                                                                                                                                                                                                        1026
COMPUTER READABLE FORM
                                                                                                                                                                                                                                                                                                                                                                                                         629
                                                                                                                                                                                                                                                                                                                                                                                                                                            967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        564 HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 621
                COUNTRY: UZIP: 22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                       CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                                                        CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                          VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QP-----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HRIET------KSNTV---TITF-VTDESGDHTG------WKIHYTSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA 966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPRLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KSFTAVCQKDGSWDRPMPAC-SIVDC-GPPDDLPS-GRVEYITGPGVTT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----YKAVIQ--YSCEETEYTMKVND 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151;
                                                                                  E: Birch, Stewart,
8110 Gatehouse Roa
                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                   The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.5%;
28.1%;
                                                                                    Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 470.5;
Pred. No. 2.9
                                                                                  Kolasch
d, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                  & Birch
500 East
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .9e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1083;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                          1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26;
```

MEDIUM TYPE:

Floppy disk

```
US-09-715-994-2

Sequence 2, Application US/09715994

Patent No. 6423526
                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear; MOLECULE TYPE: protein US-08-877-620-2
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (703) 205-8050
TELEX: 248345
FORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Rel CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EQUENCE CHARACTERISTICS:
LENGTH: 1083 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               564 HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         265 HRIET-----KSNTV---TITF-VTDESGDHTG-----WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Murphy, Jr., Gerald M. REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                    CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPRLPLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ 795
                                                                                                                                                CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 108:
                                                                                                                                                                                                                                                                                                                                                                                                    DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKMYLGKYYRDDSRDDDY 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QP-----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL 341
                                                                                                                                                                                                                                  VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA 1025
                                                                                                                                                                                                                                                                         TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS 628
                                                                                                                                                                                                                                                                                                                     VQVREALEIHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLA 966
                                                                                                                                                                                                                                                                                                                                                             ----EAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIG
                                                                                                                                                                                                                                                                                                                                                                                                                                              ---LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA 849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----YKAVIQ--YSCEETFYTMKVND 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (703)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12.5%; Score 470.5; DB 2; 28.1%; Pred. No. 2.9e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/877,620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08/596,405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63; Mismatches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1083;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26;
```

```
Qy
                                    Вb
                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                             US-09-644-600-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
US-09-644-600-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-715-994-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Fa:
SEQ ID NO 2
LENGTH: 269
TYPE: PRT
                                                                                                                                                                                                                                               PRIOR FILING DATE: 1999-10-20
PRIOR APPLICATION NUMBER: 09/027,337
PRIOR FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 98
SEQ ID NO 10
LENGTH: 902
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 6451500 GENERAL INFORMATION:
                                                                                                                        Query Match
Best Local
                                                                                                        Matches 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 10,
                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TANG-15: An Extracellular
TITLE OF INVENTION: Overexpressed in Carcinom
FILE REFERENCE: D6064CIP/D
CURRENT APPLICATION NUMBER: US/09/644,600
CURRENT FILING DATE: 2000-08-23
PRIOR APPLICATION NUMBER: 09/421,213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/715,994
CURRENT FILING DATE: 2000-11-17
NUMBER OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Holloway, James L.
TITLE OF INVENTION: Human Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 99-88
                                                                                                                                                                                                                             ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                            OTHER INFORMATION: Epithin
                                                                                                                                                                                                                FEATURE:
                                    192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           547 NITPICLPRKEAESFMRTDDIGTASGWGLTQRGF-----LARNLMYVDIPIVD 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    495 LDI-RMGTLKRLSPHYTQAWSEA-----VFIHEGYTHDAGFDNDIALIKLNNKVVINS 546
                                                                                                                        Local Similarity
 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 IPVSKEHVTVYLGLHDVRDKSGAVNSSAARVVLHPDF-NIQNYNHDIALVQLQEPVPLGP 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 RIIGGRNAEPGLFPWQALIVVEDTSRVPNDKWFGSGALLSASWILTAAHVLRSQRRDTTV 60
                                                                     9 LLCGSVATPLGPKWPE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WGS-MNCGEAGQYGVYTKVINYIPWI 679
                                  VLTSVVAFPIDPRMLQRTQDNSCSFALHAHGAAVTRFTTPGFPNSPYPAHARCQWVLRGD 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WGGPEECGSKQVYGVYTKVSNYVDWV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HVMPVCLPRLEPEG-PAPHMLGLVAGWGISNPNVTVDEIISSGTRTLSDVLQYVKLPVVP
 PGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK-----VLATLCGQESTDTERAPGKDTFY 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HOKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/09644600
                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human Serine Protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11.9%;
37.6%;
                                                                                                                          11.9%;
24.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41;
                                                                                                        99;
                                                                                                                        Score 445.5;
Pred. No. 3e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 446.5; DB 4
Pred. No. 4.5e-30;
                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        263
                                                                   -PVFGRLASPGFPGE-YANDQERRWTLTAP 52
                                                                                                                                                                                                                                                                                                                                                                                                                                             Carcinomas
                                                                                                                          3e-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
                                                                                                                                       DB 4;
                                                                                                        299;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                        Indels 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protease
                                                                                                                                           902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33;
                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

IBM Compatible

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent NO. 6232456
GENERAL INFORMATION:
APPLICANT: COHEN, NAPPLICANT: COLPITTS
                                                                                                                                                                                                                                                                                                                                    APPLICANT: STEWART,
APPLICANT: STROUPE,
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        944-483-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               326 IFCETGYELLQGHLPLKSFTAVCQK-----DGSWDR--PMPA----CSIVDCGPPDDLPS 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        252 ADSVLSLTFRSFDVAPCDEHGSDLVTVYDSLSPMEPHAVVRLCG------
                                                                                                                                     CITY: Abbott Park STATE: IL
                                                                COUNTRY: USA
ZIP: 60064-3500
                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSW 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GE-GCAQRNKPGVYTRL 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSMNCGEAGOYGVYTKV 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CFQDDKNFKYSDYTMWTAFLGLLDQSKRSASGVQELKLKRIITHPSF-NDFTFDYDIALL 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |---CD--CGLRSFTKQARVVGGTNADEGEWPWQVSLHALGQGHLCGASLISPDWLVSAAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI--LG-GTTAAGALLYDNWVLTAAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GKDNCGDGSDEASCDSVNVVSC--TKYTYRCQNG--LCLSKGNPECDGKTDCSDGSDEKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRCNATHQFTCKNQFCKPLFWVCDSVNDCGDGSDEEGCSCPAGSFKCSNGKCLPQSQKCN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HFHSDHSYTDTGFLAEYLSYDSNDPCPGMFMCKTGRCIRKELRCDGWADCPDY--SDERY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAK-----YILKDSFS 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TFSPSYNLTFLSSQNVFLVTLITNTGRRHLGFEATFFQLPKMSSC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCEDLMPQ-----QITPRMMCVGFLSGGVDSCQGDSGGPLSSAEKD-GRMFQAGVVSW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ELEKSVEYSTVVRPICLP--DATHVFPAGKAIWVTGWGHTKEGGTGALILQKGEIRVINQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDH 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AVYEQKH----DASALDIRMGTL---KRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVC-----EADGFWTSSKG--EKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PNNRNVKVRFKLFYLVDPNVPVGSCTKDYVEINGEKGS-----GERSQFVVSSNSSKITV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTI 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISL 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SLGSSLDITFRSDY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08944483
                                                                                                                                                                                                      E: Abbott Laboratories
100 Abbott Park Road
                                                                                                                                                                                                                                                                                         COLPITTS, TRACEY L.

FRIEDMAN, PAULA N.

GRANADOS, EDWARD N.

KLASS, MICHAEL R.

KLASS, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COHEN, MAURICE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----SNEKPFTGFEA-FYAAEDIDECOVAPGEAPTCDHHCH 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
```

```
RESULT 12
US-08-200-900A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TOPOLOGY: linear; MOLECULE TYPE: No. 6232456e US-08-944-483-29
                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 39.0
                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08200900A Patent No. 5665566
                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Becker, Cheryl L.
REGISTRATION NUMBER: 35,441
REFERENCE/DOCKET NUMBER: 61:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847/935-1729
                                                                                                                                                                                                        APPLICANT:
TITLE OF INVENTION: CLOUDER OF SEQUENCES: 3:
CORRESPONDENCE ADDRESS:
SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Becker, Cheryl L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445 IYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDA---SALDIRMG---|
                                                                                                                                                                                                                                                                                                                                                                                                              225 TKVLNYVDWIK 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 242 amino TYPE: amino acid STRANDEDNESS: si
                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPTATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                          STREET: 87 Camb:
CITY: Cambridge
                                                                                                         COUNTRY: U
ZIP: 02140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 847/938-2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM CONTROL OPERATING SYSTEM:
                                                                                                                                             STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 IIGGQKAKMGNFPWQVFTNIHGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGH 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLP 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                TKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DVFSQNMFCAGHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -- DNDTFYDLGLMGYVSGFGVMEEK - IAHDLRFVRLPVANPQAC ----- ENWLRGKNRM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THVEELMKLGHHPIR----RVSVHPDYRQDESYNFEGDIALLELENSVTLGPHLLPICLP
                                                                                                                                           ΜA
                                                                                                                                                                            E: Genetics Institute,
87 CambridgePark Drive
                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                                                                                   CLONING OF ENTEROKINASE AND METHOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11.5%; Score 430.5; DB 4; 39.0%; Pred. No. 8.7e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/944,483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .US
                                                                                                                                                                                               Inc.
                  Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
2
                                                                                                                                                                                             Legal Affairs
                  #1.25 (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                   OF USE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              116
```

10;

```
Вþ
                                                                                             20
                                                                                                                                                                    Qy
                                                                                                                                                                                                           B
                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                       밁
                     QΥ
                                                          В
                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                               Д
                                                                                                                                                                                                                                                                                                                                                                                                 ξŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-200-900A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (617) 876-1170 X8574
TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ery Match
t Local Similarity
hes 185; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Meinert, Maureen C.
REGISTRATION NUMBER: 31,544
REFERENCE/DOCKET NUMBER: GI
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: protein
                       553
                                                                                                                                                                          444
                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                   424
                                                                                                                                                                                                                                                                                                                                                                                                                                          374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101 -PGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA------ 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33 RWITRVNQGLSIQLNFDYFN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TFTSINFPNSYPNQAFCIWNLNAQKGKNIQLHFQE-FDLENIADVVEIRDGEGDDSLFLA
LPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS
                                                        AVLGLHMAS-NLTSPQIETRLIDQIVINPHY-NKRRKNNDIAMMHLEMKVNYTDYIQPIC
                                                                                                                                                                    ----RIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDNWVLTAAHAVYEQKHDAS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NPGTIRIFS -- NOVTATELIQ - SDESDYIGFKVTYTAFNSKELNNYEKINCNFEDGFCFW 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA----
                                                                                           -ALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPIC
                                                                                                                                 QEVSPKIVGGSDSREGAMPWVVALYFDDQQVCGASLVSRDWLVSAAHCVYGRNMEPSKWK
                                                                                                                                                                                                         GT---GNSSVPTFSTGGGPYVNLNTAPNGSLILTPSQQCLEDSLILLQCNYKSCGKKLVT
                                                                                                                                                                                                                                                  WTSSKGEKSLPVCE----PVCGLSARTTGG----
                                                                                                                                                                                                                                                                                     -AHCVRLFNGTTDS--SGLVQF-----RIQSIWHVACAEN-WTTQISDD--VCQLLGL 500
                                                                                                                                                                                                                                                                                                                      MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGF 417
                                                                                                                                                                                                                                                                                                                                                                                                   PMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRP 357
                                                                                                                                                                                                                                                                                                                                                                                                                                      VYTG---PGPV-----NDVFSTTNRMTVLFITDNMLAKQGFKANFTTGYGLGIPEPCK- 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS----TAQPCPY 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYD-----FLK 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KVSFYGFKNQILSDIALDDISLTYGICNMSVYPEPTLVPTPPPELPTDCGGPHDLWEPNT 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PTPEQACLSFWYYMYGENVYKLSINISSDQNMEKTIFQKEGNYGQNWNYGQVTLNETVEF 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----YVLHRNKRTCSALCS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IQDLNDDNEWERTQGSTFPPSTGPTFDHTFGNE-SGFYISTPTGPGGRRERVGLLTLPLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    798 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10.9%; Score 408.5; DB 1; ilarity 21.7%; Pred. No. 3.4e-26; Conservative 111; Mismatches 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -CQVAPGEAPTCDHHCHNHLGGFYCSCRAG--
                                                                                                                                                                                                                                                                                                                                                               -EDNFQ--CKDG----ECIPLVN---LCDGFPHCKDGSDE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/08/200,900A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5201-FWC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----TYYADVLNIYEGMGSSKILRASLWSN 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----GQVFTQRSGE- 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                     611
                                                                                             552
                                                                                                                                  617
                                                                                                                                                                                                                                                                                                                                                               453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             194
                                                        675
                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₩
8:
```

```
δõ
                                                                                                              밁
                                                                                                                                               δÃ
                                                                                                                                                                                       B
                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                  γ
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCT-US94-00616-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US94-00616-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application PC/TUS9400616 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: CLONING OF ENTEROKINASE AND METHOD OF USE NUMBER OF SEQUENCES: 33
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: 1: MOLECULE TYPE:
 358
                                      424
                                                                         303
                                                                                                              374
                                                                                                                                                   248
                                                                                                                                                                                       315
                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                 255
                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                         195
                                                                                                                                                                                                                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                                                                     137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      676 LP--EENQVFPPGRICSIAGWGALIYQGSTADVLQEADVPLLSNEKC-----QQQMPEYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \frac{\omega}{\omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/US94/00616 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGF 417
                                                                       PMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRP 357
                                                                                                            VYTG---PGPV----NDVFSTTNRMTVLFITDNMLAKQGFKANFTTGYGLGIPEPCK- 423
                                                                                                                                 IQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS-----TAQPCPY 302
                                                                                                                                                                                       TFTSINFPNSYPNQAFCIWNLNAQKGKNIQLHFQE-FDLENIADVVEIRDGEGDDSLFLA 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -PGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA------ 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VPRFTEWIQSFL 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTK 671
                                                                                                                                                                                                                        -LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYD-----FLK 247
                                                                                                                                                                                                                                                               KVSFYGFKNQILSDIALDDISLTYGICNMSVYPEPTLVPTPPPELPTDCGGPHDLWEPNT 314
                                                                                                                                                                                                                                                                                                                                     PTPEQACLSFWYYMYGENVYKLSINISSDQNMEKTIFQKEGNYGQNWNYGQVTLNETVEF 254
                                                                                                                                                                                                                                                                                                                                                                                                                IQDLNDDNEWERTQGSTFPPSTGPTFDHTFGNE-SGFYISTPTGPGGRRERVGLLTLPLD 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                   -EDIDE------CQVAPGEAPTCDHHCHNHLGGFYCSCRAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NPGIIRIFS--NQVTATFLIQ-SDESDYIGFKVTYTAFNSKELNNYEKINCNFEDGFCFW 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RWITRVNQGLSIQLNFDYFN------TYYADVLNIYEGMGSSKILRASLWSN 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ITENMYCAGYEAGGYDSCQGDSGGPL--MCQENNRWLLAGYTSFG-YQCALPNRPGYYAR 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          798 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative 111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                           YVLHRNKRTCSALCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.9%;
21.7%;
                                    --EDNFQ--CKDG----ECIPLVN---LCDGFPHCKDGSDE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 408.5; DB 5
Pred. No. 3.4e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #1.25 (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 301;
                                                                                                                                                                                                                                                                                                                                                                           -GQVFTQRSGE- 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----- 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38;
```

δÃ

676

28;

밁 Š

US-08-295-411-3 RESULT 14

COUNTRY:

92037 CA

MOLECULE TYPE:

TOPOLOGY:

ş

망 Š B δÃ В

444

418

밁

```
Sequence 3, Application US/08295411 Patent No. 5679639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                               TELEFAX: 619-554-6312 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Fitting, Thomas
REGISTRATION NUMBER: 34,163
REFERENCE/DOCKET NUMBER: TS
                                                                                                                                                                                                                                                                             CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/793,989
FILING DATE: 18-NOV-1991
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                           OMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Griffin, John H.
APPLICANT: Mesters, Rolf M.
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic
TITLE OF INVENTION: for Inhibiting Coagulation
NUMBER OF SEQUENCES: 10
                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 448 amino acids
                                                                                                                              TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
TELEFAX: 619-554-6312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          612 VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTK 671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            672 VINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      786 VPRFTEWIQSFL 797
                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 10666 | CITY: La Jolla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Office of Patent Counsel, The Scripps ADDRESSEE: Research Institute STREET: 10666 No. 5679639th Torrey Pines Road, TPC
                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/0 FILING DATE: 22-AUG-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LP--EENQVFPPGRICSIAGWGALIYQGSTADVLQEADVPLLSNEKC-----QQQMPEYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----RIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDNWVLTAAHAVYEQKHDAS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GT---GNSSVPTFSTGGGPYVNLNTAPNGSLILTPSQQCLEDSLILLQCNYKSCGKKLVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -AHCVRLFNGTTDS--SGLVQF------RIQSIWHVACAEN-WTTQISDD--VCQLLGL 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ITENMVCAGYEAGGVDSCQGDSGGPL--MCQENNRWLLAGVTSFG-YQCALPNRPGVYAR 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AVLGLHMAS-NLTSPQIETRLIDQIVINPHY-NKRRKNNDIAMMHLEMKVNYTDYIQPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -ALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QEVSPKIVGGSDSREGAWPWVVALYFDDQQVCGASLVSRDWLVSAAHCVYGRNMEPSKWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WTSSKGEKSLPVCE----PVCGLSARTTGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                               linear
    protein
                                                                                                                                                                                                                                                                                                                                                                                                                US/08/295,411
                                                                                                                                                                                                 TSRI263.0C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Methods
                                                                                                        RESULT 15
US-08-955-471-3
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY: Region
; LOCATION: 143..448
; OTHER INFORMATION:
US-08-295-411-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
Sequence 3, Application US/08955471
Patent No. 5968751
GENERAL INFORMATION:
APPLICANT: Griffin, John H.
APPLICANT: Mesters, Rolf M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 10.8
Best Local Similarity 23.8
Matches 142; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Region
LOCATION: 140.142
OTHER INFORMATION: 7
OTHER INFORMATION: 7
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  446
                                                                                                                                                                                          1:
422 ID 423
                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                                                                                                                                           560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                                         619
                                                                                                                                                                                                                                                                                                                                                                   311
                                                                                                                                                                                                                                                                                                                                                                                                                                                      252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150 PTCDHH--CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17 CMEETCSYEEA--REVFED-----SDKTNE----FWNKY--KDGDQCETSP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90 CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55 -- CQNQGKCKBGLGEYTCTCLEGF----EGKNC-----ELFTRKLCSLDN-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIETKSNTYTITFYTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS 325
                                                                                                                                                                                                                                     ΙE
                                                                                                                                                                                                                                                                               AGYDTKQEDACQGDSGGPHVTRFKDT--YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW
                                                                                                                                                                                                                                                                                                                                                                 STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLS-----SSFIITQNMFC
                                                                                                                                                                                                                                                                                                                                                                                         SFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKR----FKVRVGDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI 445
                                                                                                                                                                                                                                                                                                                     AGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NTEQEEGGEAVHEVEVVIKHNRFTKET-YDFDIAVLRLKTPITFRMNVAPACLPERDWAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YGGQKAKPGDFPWQVLILGGTT----AAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPF-CGK-TLPH 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KRLSPHYTQAWS--EAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKE-AE 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R---KRSVAQATSSSGEAPDSITWK-----PYDAA----DLDPTENPFDLLD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER 139
                                                                                                                                                                                                                                     680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
143..448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
1..139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10.8%; Sc
23.6%; Pr
ative 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Factor X Connecting
Tripeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Factor X Heavy Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Factor X Light Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 405; DB 1; Length 448;
Pred. No. 3e-26;
L; Mismatches 173; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----RGDNNLT-----RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          195
                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                               364
                                                                                                                                                                                                                                                                                                                                                                                                         618
                                                                                                                                                                                                                                                                                                                                                                                                                                                   310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                  EATURE:

NAME/KEY: Region

LOCATION: 143..448

OTHER INFORMATION:
US-08-955-471-3
                                                            В
                                                                                                 δÃ
                                                                                                                                                                           Qγ
                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                        Qγ
                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 619-554-6312
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 448 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 142; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: FITLING, Thomas
REGISTRATION NUMBER: 34,163
REFERENCE/DOCKET NUMBER: TSRI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: 5
TITLE OF INVENTION: 7
TITLE OF INVENTION: 1
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Region
LOCATION: 140..142
OTHER INFORMATION: /
OTHER INFORMATION: 7
266 RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
RIOR APPLICATION DATA:
                                                                                                 208 LSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPF-CGK-TLPH 265
                                                                                                                                                               150 PTCDHH--CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Region
LOCATION: 1..139
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 10666 | CITY: La Jolla STATE: CA
                                                              94
                                                                                                                                            55
                                                                                                                                                                                                                   17 CMEETCSYEEA--REVFED------SDKTNE----FWNKY--KDGDQCETSP--- 54
                                                                                                                                                                                                                                              90 CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Office of Patent Counsel, The Scripps ADDRESSEE: Research Institute STREET: 10666 No: 5968751th Torrey Pines Road, TPC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                         -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER 139
                                                                                                                                        --CQNQGKCKBGLGEYTCTCLEGF----EGKNC-----ELFTRKLCSLDN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .. protein
NO
                                                                                                                                                                                                                                                                                               10.8%; Score 405; DB 2; Length 448; 23.6%; Pred. No. 3e-26; aps vative 81; Mismatches 173; Indels 206; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Serine Protease-Derived Polypeptides and Anti-Peptide Antibodies, Systems and Therapeutic Methods for Inhibiting Coagulation
                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Factor X Heavy Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Factor X Connecting
Tripeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Factor X Light Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08/295,411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/955,471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TSRI263.0C1
                                                                                                                                        93
                                                                                                                                                                                                                                                                                                      28;
```

	INFORMATION FOR SE SEQUENCE CHARACT LENGTH: 448 a TYPE: AMINO A TOPOLOGY: lin	
	REFERENCE/DOCKET NUMBER: S TELECOMMUNICATION INFORMATION TELEPHONE: 619-554-2937 TELEPAX: 619-554-6312	,
	ATTORNEY/AGENT INFORMAT NAME: Fitting, Thome REGISTRATION NUMBER:	,
	APPLICATION NUMB FILING DATE: 18	·. ·.
	CLASSIFICATION PRIOR APPLICATIO	
	ć	. ~, ~
	SOFTWARE: Patentl	
	MEDIUM TIPE: FLOPPY GISK COMPUTER: IBM PC compatible OBERATING EVERTAL BC-DOS ME-DO	
	COMPUTER READABLE FORM:	
	COUNTRY:	
	CITY: La Jolla	
	ADDRESSEE: Research Institute	
	CORRESPONDENCE ADDRESS ADDRESSEE: Office o	
	TITLE OF INVENTION: for Inhibiting Coagulat NUMBER OF SEQUENCES: 10	
tic Methods	TITLE OF INVENTION: Serine Prote TITLE OF INVENTION: Anti-Peptide	
	APPLICANT: GFITID, JOHN H. APPLICANT: Mesters, Rolf	
	3, Application INFORMATION:	7
	<u>.</u> د	ובי ד
	Db 422 ID 423	
	Qy 679 IE 680	0
421	YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW	ы
678	GGKDSCRGDSGGALVELDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW	0
364	Db 311 STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQNMFC	П
618	YEKPPYPRGSVTANMLC	0
310	Db 252 NTEQEEGGEAVHEVEVVIKHNRFTKET-YDEDIAVLRLKTPITFRMNVAPACLPERDWAE	-
559		0
251	Db 196 VGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKRFKVRVGDR :	
502	DASALDIRMGTL	0
195	Db 187RGDNNLTRI	_
445	Qy 386 TTYKAVIQYSCEETFYTMKUNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI '	0
186	Db 180 -FNQTQPE	н
385	Qy 326 IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV :	Ω
179	Db 140 RKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLD ]	В

```
LOCATION: 143..448

OTHER INFORMATION: /r

PCT-US92-10242-3
                                                      RESULT 17
US-08-742-877-2
  .. .. .. ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .. .. .. .. .. .. .. .. .. .. ..
                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QV
V
                                                                                                             밁
                                                                                                                                    δõ
                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
Sequence 2, Application US/08742877
Patent No. 6046380
GENERAL INFORMATION:
APPLICANT: CLARK, Anthony J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ANTI-SENSE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Region
LOCATION: 140..142
OTHER INFORMATION: ,
OTHER INFORMATION: ,
                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  y Match 10.8%;
Local Similarity 23.6%;
                                                                                                                                                                                                                                                                                                                                                                                     187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hes
                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Region LOCATION: 1.139 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17 CMEETCSYEEA--REVFED------SDKTNE----FWNKY--KDGDQCETSP--- 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90 CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                           NTEQEEGGEAVHEVEVVIKHNRETKET-YDFDIAVLRLKTPITFRMNVAPACLPERDWAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPF-CGK-TLPH 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PTCDH+--CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207
                                                                                                                                                                                                                                     SFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --CQNQGKCKBGLGEYTCTCLEGF----EGKNC-----ELFTRKLCSLDN------
                                                                                                             H
                                                                                                                                      IE 680
                                                                                                                                                                 AGYDTKQEDACQGDSGGPHVTRFKDT--YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW
                                                                                                                                                                                        AGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW.678
                                                                                                                                                                                                                    STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLS-----SSFIITQNMFC
                                                                                                                                                                                                                                                                                                   KRLSPHYTQAWS--EAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKE-AE
                                                                                                                                                                                                                                                                                                                                                                                                            TTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R---KRSVAQATSSSGEAPDSITWK-----PYDAA----DLDPTENPFDLLD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Factor
Tripeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                     %; Score 405; DB 5; Length 44%; Pred. No. 3e-26;81; Mismatches 173; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Factor X Heavy Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Factor X Light Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       X Connecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 5; Length 448,
                                                                                                                                                                                                                                                                                                                                                                                    . - - - - - - - - RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                               423
                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93
                                                                                                                                                                                                                    364
                                                                                                                                                                                                                                              618
                                                                                                                                                                                                                                                                         310
                                                                                                                                                                                                                                                                                                    559
                                                                                                                                                                                                                                                                                                                                                                                                                                         186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28;
```

```
; LENGTH: 461 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-742-877-2
                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                     RESULT 18
US-09-053-871A-21
                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
GENERAL INFORMATION:
APPLICANT: Pinsky, I
APPLICANT: Stern, Da
APPLICANT: Rose, Er
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
                                                                               Sequence 21, Application US/09053871A Patent No. 6315995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity Matches 107; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (202) 371-2540 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 461 amino acid:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 34,331
REFERENCE/DOCKET NUMBER: 0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9/
FILING DATE: 03-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: FLESHNER, RAZ E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX, P.L.L.C.
STREET: 1100 NEW YORK AVENUE, NW, SUITE 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                          512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      472. LLYDNWYLTAAHAV-------YEQKHDASALDIRMGTLKRLSPHYTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196 FPDVDYVNSTEAETILDNITQSTQSFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS
                                                                                                                                                                                                                                        631 GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                    355
                                                                                                                                                                                                                                                                                                                        572 GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR 630
                                                                                                                                                                                                                                                                                                                                                                305 -YNAAI---NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                             256 IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN------VIRIIPHHN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141 CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAEAV 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG-LSARTTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE: 01-NO CLASSIFICATION: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 1100 NEW CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                                                                                GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK
                                                                                                                                                                                                                                                                                  GWGRVFHKGRSALVLQYLRVPLVDRATCLRS----TKFTIYNNMFCAGFHEGGRDSCQ
                                                                                                                                                                                                                                                                                                                                                                                                     AWSEAVFIHEGYTHDAGFONDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----GRIYGGQKAKPGDFPWQVLILGGTTA--AGA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20005-3934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10.8%; Score 405; DB 3; 30.5%; Pred. No. 3.1e-26; tive 50; Mismatches 92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/742,877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9408717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0623.0470001/REF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 102;
                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                354
                                                                                                                                                                                                                                                                                                                                                                                                     571
                                                                                                                                                                                                                                                                                                                                                                                                                                             304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                442
```

16;

Rose, Eric Pinsky, David J. Stern, David

```
B
                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MEULIEN, PIERRE
APPLICANT: MEULIEN, PIERRE
ITLE OF INVENTION: DNA SEQUENCE CODING FOR HUMAN FACTOR
A SIMILAR PROTEIN, EXPRESSION VECTOR, TRANSFORMED CELLS,
DD FOR PREPARING FACTOR IX AND CORRESPONDING PRODUCTS OBTAINED
RUMBER OF SEQUENCES: 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                            5521070-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5521070-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; SOFTWARE: PatentIn Ver
; SEO ID NO 21
; LENGTH; 461
; TYPE: PRT
; ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-053-871A-21
                                                                                                                                                                                                                                                                SEQ ID NO:2:
LENGTH: 461
                                                                                                                                             Query Match
Best Local Similarity
Matches 107; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 107; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/053,871A CURRENT FILING DATE: 1998-04-01 NUMBER OF SEQ ID NOS: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Solomon, Robert A.
APPLICANT: Schmidt, Ann Marie
TITLE OF INVENTION: METHODS FOR TRI
TITLE OF INVENTION: STROKE OUTCOME
FILE REFERENCE: 51917-B
                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/
FILING DATE: 14-MAR-1994
PRIOR APPLICATION DATA:
                                                 141
                                                                                         396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG-LSARTTG------ 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                472 LLYDNWVLTAAHAV-------YEQKHDASALDIRMGTLKRLSPHYTQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG-LSARTTG------ 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            305 -YNAAI---NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196 FPDVDYVNSTEAETILDNITQSTQSFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141 CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAETV 195
                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 970,966
FILING DATE: 03-NOV-1992
APPLICATION NUMBER: 433,276
FILING DATE: 08-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                            CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAETV 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GWGRVFHKGRSALVLQYLRVPLVDRATCLRS-----TKFTIYNNMFCAGFHEGGRDSCQ 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN------VIRIIPHHN- 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn Ver. 2.1
                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10.8%; Score 405; DB 4; 30.5%; Pred. No. 3.1e-26;
                                                                                                                                        10.8%; Score 405; DB 6; Length 461; 30.5%; Pred. No. 3.1e-26; tive 50; Mismatches 92; Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/209,489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         50; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR TREATING AN ISCHEMIC DISORDER AND IMPROVING
-GRIYGGQKAKPGDFPWQVLILGGTTA--AGA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         354
                                                                                                                                             16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16;
```

```
RESULT 20
US-08-073-531B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΩÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/08073531B Patent No. 5621039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION: APPLICANT: Hallah
                                                                                                                                                                                                                                                                                                                       TELEFAX: (516) 582-61 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 415 Amino Acids
                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Hallahan, TITLE OF INVENTION:
                               PUBLICATION INFORMATION:
                                                                                                                                                         ANTI-SENSE: -
ORIGINAL SOURCE:
                                                                                                                                                                                                           TOPOLOGY: Un
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                    CELL TYPE: -
IMMEDIATE SOURCE:
                                                                                                                                                                                        HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      305 -YNAAI---NKYNH------DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  196 FPDVDYVNSTEAETILDNITQSTQSFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              409 GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             631 GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           512 AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   572 GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256 IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN------VIRIIPHHN- 304
                                            CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08, FILING DATE: June 8, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM CON OPERATING SYSTEM: SOFTWARE: WordPer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 300 Rabi
CITY: Hauppauge
STATE: New York
                                                                                                                                                                                                                                                TYPE: Amino Acid
STRANDEDNESS: Si
                                                                                                                                                                                                                                                                                                                                                                                                             NAME: GALGANO & BURKE REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
              AUTHORS:
                                                                     LIBRARY:
                                                                                                                                            ORGANISM:
                                                                                                                                                                                                                                                                                                                                                       TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER:
TITLE
                                                                                                                       INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GWGRVFHKGRSALVLQYLRVPLVDRATCLRS-----TKFTIYNNMFCAGFHEGGRDSCQ 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LLYDNWVLTAAHAV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300 Rabro Drive
                                                                                                                                                                                                                                                                                                                                          (516) 582-6191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYSTEM: DOS 6.0 WordPerfect 6.1
                                                                                                                                                                                                                              Unknown to applicant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GALGANO & BURKE
                                                                                                                                                                                                                                                                                                                                                         (516) 582-6161
                                                                                                                                                                                                                                                  Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Factor IX -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/073,531B
                                                                                                                                                                                                                                                                                                                                                                                                               30,735
                                                                                                                                                                                                                                                                                                                       <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.50 inch, 1.44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Polymeric Conjugates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----YEQKHDASALDIRMGTLKRLSPHYTQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        354
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-766-288-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; RELEVANT RESIDUES IN SEQ ID NO: US-08-073-531B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/08766288 Patent No. 5969040 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 108; Conser
             NAME: GALGANO & BURKE
REGISTRATION NUMBER: 30,735
REFERENCE/DOCKET NUMBER: 128-7 (DIV)
TELECOMMUNICATION INFORMATION:
TELEPHONE: (516) 582-6161
TELEPAX: (516) 582-6191
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                  SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
ADDITORMENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                        STREET: JVC
CITY: Hauppauge
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Hallahan, TITLE OF INVENTION: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: GALGANO & BURKE
                                                                                                                                          APPLICATION NUMBER: 08/073,531 FILING DATE: June 8, 1993 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              472 LLYDNWVLTAAHAV-------YEQKHDASALDIRMGTLKRLSPHYTQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               210 IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN------VIRIIPHHN- 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG------- 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150 FPDVDYVNPTEAETILDNITQGTESFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS 209
                                                                                                                                                                                                                                                                                         COMPUTER: IBM Com
OPERATING SYSTEM:
SOFTWARE: WordPer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL:
VOLUME:
                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95
                                                                                                                                                                                                                       CLASSIFICATION: 525
                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ISSUE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -YNAAI---NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAEAV 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GWGRVFHKGRSALVLEYLRVPLVDRATCLRS----TKFTIYNNMFCAGFHEGGRDSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LSARTTG-----GRIYGGQKAKPGDFPWQVLILGGTTA--AGA 471
                                                                                                                                                                                                                                                                                                                                                                                           11788
                                                                                                                                                                                                                                                                                                                                                                                                                                                            300 Rabro Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                             IBM Compatible
                                                                                                                                                                                                                                                                                                                                                  Diskette, 3.50 inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Factor IX -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10.8%; Score 404; DB 1; 30.8%; Pred. No. 3.3e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           et al.
                                                                                                                                                                                                                                                        US/08/766,288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polymeric Conjugates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1: FROM
                                                                                                                                                                                                                                                                                                                                                  1.44
                                                                                                                                                                                                                                                                                                                                                  ĕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                 Storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TO 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16;
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                         RESULT 22
PCT-US92-10068-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
RELEVANT
US-08-766-288-1
                                                                                                                                                                                                                                        Sequence 1, Application PC/TUS9210068 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: Amino Acid
STRANDEDNESS: Sinc
TOPOLOGY: Unknown
MOLECULE TYPE: -
                                                                                                                    APPLICANT: Fair, Daryl S
TITLE OF INVENTION: Factor X-Derived Polypeptide
TITLE OF INVENTION: Anti-Peptide Antibodies, Sys
TITLE OF INVENTION: for Inhibiting Inflammation
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PUBLICATION INFORMATION: AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INDIVIDUAL ISOLATE:
CELL TYPE: -
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE: -
ORIGINAL SOURCE:
                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HYPOTHETICAL:
                                                       ADDRESSEE:
ADDRESSEE:
STREET: 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      210
                                                                                                                                                                                                                                                                                                                                                           631 GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      436 -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG------ 435
                                                                                                                                                                                                                                                                                                                                            363
                                                                                                                                                                                                                                                                                                                                                                                                                                      572 GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    512 AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472 LLYDNWVLTAAHAV--------YEQKHDASALDIRMGTLKRLSPHYTQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      259 -YNAAI---NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 FPDVDYVNPTEAETILDNITQGTESFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLONE:
                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE:
               COUNTRY:
                                             CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95 CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAEAV 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISSUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                       GWGRVFHKGRSALVLEYLRVPLVDRATCLRS----TKFTIYNNMFCAGFHEGGRDSCQ
                                                                                                                                                                                                                                                                                                                                         GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN-----
                           La Jolla
:: CA
92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL:
                                                           E: Research Institute
10666 North Torrey Pines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              415 Amino
               USA
                                                                                                                                                                                      Edgington, The
                                                                                                                                                                                                                           Altieri, Dario C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unknown to applicant
                                                                                           Office of Patent Counsel, The Scripps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -LSARTTG------GRIYGGQKAKPGDEPWQVLILGGTTA--AGA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10.8%;
                                                                                                                                                                   Factor X-Derived Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Acids
                                                                                                                                                                                                          Thomas S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 404; DB 2;
Pred. No. 3.3e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92; Indels 102;
                                                                                                                                                         Systems
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----VIRIIPHHN-
                                                                                                                                                           and
                                                                                                                                                         Therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      258
                                                                                                                                                         Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
```

```
Qy
                                                                                                                              В
                                                                                                                                                       δÃ
                                                                                                                                                                                          망
                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                          В
                              Ş
                                                              В
                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT-US92-10068-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 22-NOV-1991
ATTORNEY/AGENT INFORMATION:
NAME: Fitting, Thomas
REGISTRATION UMBER: SCR1221P
REFERENCE/POOPURE

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compate OPERATING SYSTEM: PC-DC SOFTWARE: PATENTIN DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION: TELEPHONE: 619-554-2937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYPOTHETICAL:
ANTI-SENSE: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
 196
                                                               187
                                                                                               386
                                                                                                                               180
                                                                                                                                                              326
                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                          208
                                                                                                                                                                                                                                                                                                                                                          150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH:
TYPE: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EQUENCE CHARACTERISTICS:
                              446 YGGQKAKPGDFPWQVLILGGTT----AAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTL 502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Region LOCATION: 140..142 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                             94
                                                                                                                                                                                                                                                                                                                            55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Region LOCATION: 1..139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE: 19921
                                                                                                                                                                                                                                                                                                                                                                                          17.
                                                                                                                                                                                                                                                                                                                                                                                                                      90 CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                              TTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI 445
                                                                                                                                                                                             R---KRSVAQATSSSGEAPDSITWK------PYDAA----DLDPTENPFDLLD---
                                                                                                                                                                                                                          RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS 325
                                                                                                                                                                                                                                                                                          LSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPF-CGK-TLPH 265
                                                                                                                                                                                                                                                                                                                                                        PTCDHH---CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207
                                                                                                                                                                                                                                                                                                                                                                                        CMEETCSYEEA -- REVFED ---- SDKTNE --- -- FWNKY -- KDGDQCETSP ---
VGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKR----FKVRVGDR 251
                                                                                                                               -FNQTQPE-----
                                                                                                                                                          IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV 385
                                                                                                                                                                                                                                                          -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER 139
                                                                                                                                                                                                                                                                                                                          -- CONQGKCKDGLGEYTCTCLEGF----EGKNC----ELFTRKLCSLDN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              448 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                619-554-6312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
143..448
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19921120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Factor
Tripeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Factor X Heavy Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT/US92/10068
                                                                                                                                                                                                                                                                                                                                                                                                                                                        81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Factor X Light Chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 403; DB 5; Pred. No. 4.4e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                               - RGDNNLT - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                        206;
                                                               ----RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                               195
                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                        54
                                                                                                                              186
                                                                                                                                                                                                                                                                                                                          93
```

28;

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          γg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                δõ
                                                DЬ
                                                                                                              Вр
                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-866-650-5
                                                                                                                                                                                                                                              US-08-866-650-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5, Application US/08866650 Patent No. 5939321
                                                                                                                                                                              Matches 120;
                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Berson, Bennett J
REGISTRATION NUMBER: 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Mammalian Tolloid-Like Protein
                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 608-251-5000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                618
                                                                                                                                                                                                                                                                                                       LENGTH: 1013 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          503
127 FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: PatentIn Release "'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                422 ID 423
                                                                              71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 1 Sourcity: Madison
                                                                                                                                            11 CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH 70
                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                           TYPE:
                                                                                                                                                                                                                                                                                                                                                         TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 53703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KRLSPHYTQAWS -- EAVFIHEGYTHDAGFONDIALIKLNNKVVINSNITPICLPRKE-AE
                                                                             LCEYDFVK----LSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP 126
                                                                                                                CGGLLTKLN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW
                                              VCKYDYVEIWSGLSSESKLHGKFCGAEV------PEVITSQFNNMRIEFKSDNTVSK- 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGYDTKQEDACQGDSGGPHVTRFKDT--YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLS-----SSFIITQNMFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NTEQEEGGEAVHEVEVVIKHNRFTKET-YDFDIAVLRLKTPITFRMNVAPACLPERDWAE
                                                                                                                                                                                                                                                                                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3: Quarles & Brady
1 South Pinckney Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Greenspan, Danıeı
Takahara, Kazuhiko
                                                                                                                                                                                                                                                                                                                                                           608-251-9166
                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hoffman, Guy G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Floppy disk
                                                                                                                                                                                             10.7%;
28.2%;
                                                                                                              -GTITTPGWPKEYPPNKNCVWQVVAPTQYRISVKFEFFELEGNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Daniel S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/866,650
                                                                                                                                                                                                                                                                                                                                                                                                                       37094
                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                              65;
                                                                                                                                                                                                                                                                                                                                                                                                          960296.93839
                                                                                                                                                                            Score 401; DB 2; I
Pred. No. 2.1e-25;
5; Mismatches 151;
                                                                                                                                                                                                           Length 1013;
                                                                                                                                                                              Indels
                                                                                                                                                                              90;
                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          559
                                                                                                                669
                                                                                                                                                                              19;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-021-287-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                   ; MOLECULE TYPE:
US-09-021-287-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5, Application US/09021287
Patent No. 5981717
GENERAL INFORMATION:
APPLICANT: Greenspan, Daniel S
APPLICANT: Takahara, Kazuhiko
APPLICANT: Hoffman, Guy G
                                                           Best Local Similarity Matches 120; Conserv
                                                                             Query Match
Best Local (
                                                                                                                                                                                                       TELEFAX: 608-251-9166
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 1013 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 96
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Hoffman, Guy G
TITLE OF INVENTION: Mammalian Tolloid-Like Protein
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Berson, Bennett J
                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   985 FHTDDT 990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           339 LPLKSFTAV-----CQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      394 YSCEET 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721 -KGFKAHFFS-DKDECSKDNG---GCQHECVNTMGSYMCQCRNGFVLHDNKHDCKEAECE 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
CLASSIFICATION:
NAME: Berson, Bennett
REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: UZIP: 53703
                                                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DGLDS-TAVGLGRFC---GS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QKIHSPSGLITSPNWPDKYPSRKECTWEISATPGHRIKLAFSE-FEIEQHQE--CAYDHL 832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AESKPRDLYSHAQFGDNNYPGQVDCEWLLVSERGSRLELSFQTFEVEEEADCGYDYVELF 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AQPCP----YPMAPPNGHVSPVQAKYILKD-----SFSIF----CETGYELLQGH 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EVFDGETEKSPILGRLCGNKIPDPLVATGNKMFVRFVSDASVQRKGFQATHSTECGGRLK 892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS-----T 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΨH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 South Pinckney Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SD
                                                           Conservative
                                                                                                                                                                                                                                                                                    608-251-5000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Quarles & Brady
                                                                                                                                                      protein
                                                                             10.7%;
28.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                    08/866,650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/09/021,287
                                                                                                                                                                                                                                                                                                                                        37094
                                                        Score 401; DB 2; Pred. No. 2.1e-25; 65; Mismatches 151;
                                                                                                                                                                                                                                                                                                                       960296.93839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GPPEEI---
                                                                                            Length 1013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -YSIGDSV-----LIH 984
                                                         Indels 90;
                                                        Gaps
                                                         19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 25
US-08-991-408-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application US/08991408 Patent No. 6008017
                                                                                        CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION UMBER: 60/034,471
APPLICATION UMBER: 60/034,471
FILING DATE: 02-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: PRESTIA, PAUL F
REGISTRATION NUMBER: 23,031
REFERENCE/DOCKET NUMBER: AFG-50038
TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-407-0700
               TELEX: 846169
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: WILLETTE, ROBERT N.
APPLICANT: ELSHOURBAGY, NABIL,
APPLICANT: LI, XIAOTONG
TITLE OF INVENTION: HUMAN CARD
TITLE OF INVENTION: PROTEIN
                                                                                                                                                                                                                                                                                                                   SOFTWARE: FastSEQ for Windows Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            985 FHTDDT 990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             670 VCKYDYVEIWSGLSSESKLHGKFCGAEV-----PEVITSQFNNMRIEFKSDNTVSK- 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      618 CGGLLTKLN------GTITTPGWPKEYPPNKNCVWQVVAPTQYRISVKFEFFELEGNE
                                                         TELEPHONE: biv ... TELEPHONE: biv ... 610-407-0701
                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: P.O. BOX 9
CITY: VALLEY FORGE
                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YSCEET 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPLKSFTAV-----CQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -KGFKAHFFS-DKDECSKDNG---GCQHECVNTMGSYMCQCRNGFVLHDNKHDCKEAECE 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LCEYDFVK----LSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DGLDS-TAVGLGRFC---GS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS-----T 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AESKPRDLYSHAQFGDNNYPGQVDCEWLLVSERGSRLELSFQTFEVEEEADCGYDYVELF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AQPCP----YPMAPPNGHVSPVQAKYILKD-----SFSIF-----CETGYELLQGH 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EVFDGETEKSPILGRLCGNKIPDPLVATGNKMFVRFVSDASVQRKGFQATHSTECGGRLK 892
                                                                                                                                                                                                                                                                                                                                                                                                                                   19482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
   1013 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ARLETH, ANTHONY J
                                                                                                                                                                                                                                                                                                                                                                       IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RATNER & PRESTIA
                                                                                                                                                                                                                                                                                                                                                                                              Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           вох 980
                                                                                                                                                                                                                                                                                                                                                          Dos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMAN CARDIAC/BRAIN TOLLOID-LIKE
                                                                                                                                                                                                                                                                                                 US/08/991,408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GPPEEI-----YSIGDSV----LIH 984
```

```
; TYPE: amino acid; STRANDEDNESS: single; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-991-408-2
                                                                    Вb
                                                                                                  Qy
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                              дЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                             QΥ
                                                                                                                                         망
                                                                                                                                                                     Qy
                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 10.7%; Score 401; DB 3; Length 1013; Best Local Similarity 28.2%; Pred. No. 2.1e-25; Matches 120; Conservative 65; Mismatches 151; Indels 90; Gaps
                                                                                                                                                                                                                                                                                                                                                    985 FHTDDT 990
                                                                                                    339 LPLKSFTAV-----CQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ 393
                                                                                                                                       893 AESKPRDLYSHAQFGDNNYPGQVDCEWLLVSERGSRLELSFQTFEVEEEADCGYDYVELF 952
                                                                                                                                                                              297
                                                                                                                                                                                                          833 EVFDGETEKSPILGRLCGNKIPDPLVATGNKMFVRFVSDASVQRKGFQATHSTECGGRLK 892
                                                                                                                                                                                                                                  247 KIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS-----T 296
                                                                                                                                                                                                                                                                               776 QKIHSPSGLITSPNWPDKYPSRKECTWEISATPGHRIKLAFSE-FEIEQHQE--CAYDHL 832
                                                                                                                                                                                                                                                                                                                      187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 618 CGGLLTKLN------GTITTPGWPKEYPPNKNCVWQVVAPTQYRISVKFEFFELEGNE 669
                                 394 YSCEET 399
                                                                    953 DGLDS-TAVGLGRFC---GS------GPPEEI-----YSIGDSV-----LIH 984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11 CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH 70
                                                                                                                                                                AQPCP----YPMAPPNGHVSPVQAKYILKD-----SFSIF-----CETGYELLQGH 338
                                                                                                                                                                                                                                                                                                     QVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19;
```

Search completed: January 23, 2003, 22:20:30 Job time: 28 secs

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
      703.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             number of
1244.5
1244.5
1244.5
1214.5
1214.5
541.5
4471.5
466.5
466.5
466.3
442.5
442.5
442.5
4416.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
4116.5
416.5
416.5
416.5
416.5
416.5
416.5
416.5
416.5
416.5
416.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                January 23, 2003, 22:15:51 : Search time 52 Seconds (without alignments) 1268.235 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283224 segs, 96134422 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2
3758
49.9

49.0

33.1

33.1

12.4

44.4

11.2

4.4

11.2

4.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11.4

11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maximum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MRLLTLLGLLCGSVATPLGP......GVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length DB
first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapext 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                               1549271
1549271
1549271
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
154927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283224
                                                                                                                     coagulation factor enteropeptidase (E tolloid BMP-1 like coagulation factor thrombin (EC 3.4.2 haptoglobin precur coagulation factor
                        coagulation factor haptoglobin - blac hepsin (EC 3.4.21.
                                                                                                                                                                                                                                                                                                                                                      enteropeptidase (E
procollagen C-endo
procollagen C-endo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            membrane type-seri
enteropeptidase (E
coagulation factor
                                                                                                                                                                                                                                                                                                                              procollagen
coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                              development coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             membrane-bound arg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polyprotein coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  complement
coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                oviductin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ra-reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              subcomp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor (EC 3.4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                subcomp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               subcomp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 subcomp
                                                                                                                                                                                                                                                                                                                                                                                                                                                              protei
factor
```

				244444 80012 10042 1004	
552 335. 3455.		$\sigma\sigma\sigma\sigma\sigma\cdot \cdot \sigma\sigma$	7 7 7 8		
		• • • • • • • • • •	000000000	1102	00000000
47103	7816159	448448644	4 C 4 D 20 4 D W D	625 730 348 461 345 622	040464
21122	2112121	2121212	111212211	111221111	2212111
S55378 JC2218 PLMS A23689 S05494	7 1 9	146932 EXBO B30848 KFBO7 S68424 KQHUP A57014 KFHU7	A58788 I36944 PCI235 EXRT I36942 KXBO KQMSPL A39288	#HU1 BBO MHU1 PHUR PHUR 2021 4671 3694 3694	HPHU2 KFBO S18994 HPMS I46580 HPRT I84621
ine proteinase collagen C-end smin (EC 3.4.2 ulus clotting psin (EC 3.4.2	lasmin (EC 3) Lasmin (EC 3) Lasmin (EC 3) ypothetical pothetical p	oagulation facto oagulation facto lasmin (EC 3.4.2 oagulation facto llergen Der f II lasma kallikrein rostasin (EC 3.4	(EC 3:4.21 cobin - chi ine protei ine facto ation facto cobin - chi	(EC	ton than th

ALIGNMENTS

```
C;Date: 19-May-2000 #sequence/revision 19-May-2000 #text_change 16-Jun-2000
C;Accession: A59271
R;Thiel, S.; Vorup-Jensen, T.; Stover, C.M.; Schwaeble, W.J.; Laursen, S.B.; Poulsen, Nature 386, 506-510, 1997
A;Title: A second serine protease associated with mannan-binding lectin that activate A;Reference number: A59271; MUID:97242412; PMID:9087411
A;Accession: A59271
A;Status: nucleic acid sequence not shown; not compared with conceptual translation A;Molecule type: mRNA
A;Residues: 1-686 < JENN
A;Residues: 1-686 < JENN
A;Residues: 1-686 < JENN
                                                                                                                       A;Cross-references: GB:Y09926; NID:g4007626; PIDN:CAA71059.1; PID:g4007627 A;Experimental source: tissue liver A;Note: submitted to GenBank, December 1996 A;Note: parts of this sequence, including the amino end of the mature prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ra-reactive factor (EC 3.4.21.-) (a) brecursor human N;Alternate names: mannose binding protein-associated serine proteinase 2 (MASP-2) C;Species: Homo sapiens (man)
A; Cross-references: GDB:6071500
                                           C;Genetics:
A;Gene: GDB:MASP2
                                                                                                                                 the amino end of the mature protein,
```

were

```
A:Map position: 1p36.2-1p36.3
C;Superfamily: complement subcomponent Clr; Clr/Cls repeat homology; complement if C:Reywords: beta-hydroxyasparagine; complement pathway; duplication; hydrolase; sf:1-15/Domain: signal sequence #status predicted <SIG>F;1-444.445-686/Product: Ra-reactive factor 2 #status predicted <MAT>F:19-134/Domain: clr/Cls repeat homology <ClRi>F:142-180/Domain: EGF homology <EGF>F:142-180/Domain: Complement factor H repeat homology <FH1>F:366-430/Domain: complement factor H repeat homology <FH2>F:366-430/Domain: complement factor H repeat homology <FH2>F:445-679/Domain: trypsin homology <TRY>F:72-90,142-156,152-165,167-180,184-211,241-259,300-348,328-361,366-412,396-430,485-679/Domain: trypsin homology <FH2>F:158/Modified site: erythro-beta-hydroxyasparagine (Asn) #status predicted F:444-445/Cleavage site: Arg-Ile (autolytic) #status predicted F:4483,532,633/Active site: His, Asp, Ser #status predicted
                            RESULT
I54763
 Ra-reactive N; Alternate
                                                                                    밁
                                                                                                         Qy
                                                                                                                                    В
                                                                                                                                                          δÃ
                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                    661
                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                     CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                                                                   GEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                    KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                           AAHAYYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                               SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT
                                                                                                                                                                                                                                                                                                                                                                                                                            PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              YSNEKPETGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD 120
                                                                                                                                                                                                                                               AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                   SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT
                                                                                                                                                                                                                                                                                                                                                        CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                                                                                                                                                                                                                                                                                                                                                                                           PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       684;
  factor names:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
  (EC 3.4. mannose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.7%;
 .21.-) 1
binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. 2.800; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 3745;
precursor - human
protein-associated
                                                                                 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.8e-241;
nes 2;
               human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
 (MASP-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor
serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Species: Homo sap
C; Date: 19-May-2000
C; Accession: I54765
R; Sato, T.; Endo, Y
                                                                              Q
                                                                                                                                  οy
                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                δÃ
멍
                     Qy
                                                     밁
                                                                                                          DЬ
                                                                                                                                                               В
                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-699 <SA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Comment: This
                                                                                                                                                                                                                                                                                                                                                                                             Best
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                              300
                                                                                                          241
                                                                                                                                                                181
361
                          360
                                                     301
                                                                                                                                     240
                                                                                                                                                                                         180
                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                  Local Si
hes 300;
                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                              ш
                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <SAT>
```

```
A;Map position: 3q27-3q28

C;Superfamily: complement subcomponent Clr; Clr/Cls repeat homology; complement C;Keywords: beta-hydroxyasparagine; complement pathway; duplication; glycoproteif: 1-17/Domain: signal sequence #status predicted <SIG>
F;1-17/Domain: signal sequence #status predicted <MAT>
F;18-184/B4,449-699/Product: Ra-reactive factor #status predicted <MAT>
F;19-135/Domain: Clr/Cls repeat homology <ClRl>
F;185-294/Domain: Clr/Cls repeat homology <ClRl>
F;185-294/Domain: Complement factor H repeat homology <FH1>
F;367-432/Domain: complement factor H repeat homology <FH2>
F;449-691/Domain: trypsin homology <TRY>
F;449-691/Domain: trypsin homology <TRY>
F;159/Modified site: carbohydrate (Asn) (covalent) #status predicted F;159/Modified site: erythro-beta-hydroxyasparagine (Asn) #status predicted F;448-449/Cleavage site: Arg-Ile (autolytic) #status predicted F;448-449/Cleavage site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:D28593; NID:g790963; PIDN:BAA05928.1; P1 R:Takada, F.; Takayama, Y.; Hatsuse, H.; Kawakami, M. Biochem. Biophys. Res. Commun. 196, 1003-1009, 1993 A;Title: A new member of the Cls family of complement proteins A;Reference number: JN0883; MUID:94059062; PMID:8240317 A;Accession: JN0883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA A; Molecule type: mRNA A; Residues: 1-234, 'E', 236-284, 'G', 286-498, 'K', 500-542, 'K', 544-642, 'S', 644-699 A; Cross-references: DDBJ:D17525; NID:g439712; PIDN:BAA04477.1; PID:g439713 A; Experimental source: liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Title: Molecular characterization of a novel serine protease A; Reference number: I54763; MUID:94289349; PMID:8018603 A; Accession: I54763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: GDB:MASP1; GDB:CRARF; CIA; Cross-references: GDB:361104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Int. Immunol. 6, 665-669, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Species: Homo sapiens (man)
;Date: 19-May-2000 #sequence_revision 19-May-2000
Accession: I54763; JN0883
;Sato, T.; Endo, Y.; Matsushita, M.; Fujita, T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MRLLTLLGLLCGSVATPLGPKWP-EPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKL
                                                                                                                                                                                                                                                                                                                                                                    CRVECSDNLFTQRTGVITSPDFPNPYPKSSECLYTIELEEGFMVNLQFEDIFDIQDHPEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YFMHENLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTPQQEVVLSPGSFMSTFFRS
                                                   ACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTM-KVNDGKYVCEADGFW
                                                                                                                                                       CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                           CSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRS
TCKIVDCRAPGELEHGLITFSTRNNLTTYKSEIKYSCQEPYYKMLNNNTGIYTCSAQGVW
                                                                                                                      CPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIP
                                                                                                                                                                                                                                                 PCPYDYIKIKVGPKVLGPFCGEKAPEPISTQSHSVLILFHSDNSAENRGWRLSYRAAGNE
                                                                                                                                                                                                                                                                                                          LCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      is a serum bactericidal factor that activates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41.0%;
42.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRARF1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RARF1; PRSS5;
GDB:330954; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1540; D
Pred. No. 1.1e
30; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OMIM:600521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #text_change 16-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PID: 9471128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement C4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  glycoprotein;
                                                         418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                   359
                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bactericida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               facto
in; hy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C2
```

G

```
A; Molecule type: protein
A; Residues: 152-186 <AR3>
A; Note: 152-Leu was also found
R; Arlaud, G.J.; Gagnon, J.
Biochemistry 22, 1758-1764, 1983
A; Title: Complete amino acid seque
A; Reference number: A00916; MUID:8
A; Accession: A00916
  A: Molecule type: protein
A: Residues: 464-705 ARR2>
A: Residues: 464-705 ARR2>
R; Thielens, N.M.; Aude, C.A.; Lacroix, M.B.; Gagnon, J.;
J. Biol. Chem. 265, 14469-14475, 1990
A: Title: Ca(2+) binding properties and Ca(2+)-dependent
A: Reference number: A37820; MUID: 90354439; PMID: 2387866
A: Accession: A37820
A: Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-151, 'L', 153-705 < JOU>
A; Cross-references: GB:X04701; NID:929538; PIDN:CAA28407.1;
R; Arlaud, G.J.; Willis, A.C.; Gagnon, J.
Biochem, J. 241, 711-720, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Homo sapiens (man)
C;Date: 15-Nov-1984 #sequence_revision 30-Jun-1991 #text_change
C;Date: 15-Nov-1984 #sequence_revision 30-Jun-1991 #text_change
C;Accession: A24170; A29768; A39769; S02422; A00916; A37820; S68
C;Accession: A24170; A29768; A39769; S02422; A00916; A37820; S68
R;Leytus, S.P.; Kurachi, K.; Sakariassen, K.S.; Davie, E.W.
Blochemistry 25, 4855-4863, 1986
Blochemistry 25, 4855-4863, 1986
                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: A; Accession: S02422
                                                                                                                                                                                                                                                                                                                                                                                           R;Arlaud, G.J.; van Dorsselaer, A.; Bell, A.; Mancini, M.; Au
FEBS Lett. 222, 129-134, 1987
A;Title: Identification of erythro-beta-hydroxyasparagine in
A;Reference number: S02422; MUID:88005128; PMID:2820791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochem. J. 240, 783-787, 1986
A;Tittle: Cloning and sequencing of full-length cDNA encoding
A:Reference number: A29768; MUID:87156625; PMID:3030286
A;Accession: A29768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:M14058;
R;Journet, A.; Tosi, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-705 <LEY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Title: Nucleotide sequence of the cDNA coding for human complement C1r. A;Reference number: A24170; MUID:87026566; PMID:3021205 A;Accession: A24170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Note: 152-Leu was also found R; Arlaud, G.J.; van Dorsselaer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C1HURB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttle: Complete amino acid sequence of the A chain of ference number: A29769; MUID:87241248; PMID:3036070 ression: A29769
Lecule type: protein Residues: 18-166,'X',168-463 <ARL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VKHTTLHPQYDPNTFENDVALVELLESPVLNAFVMPICLP----EGPQQEGAMVIVSGWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DSGGPMVTLNRERGQWYLVGTVSWGD-DCGKKDRYGVYSYIHHNKDWIQRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---KQFLQRFPETLMEIEIPIVDHSTCQKAY--APLKK-KVTRDMICAGEKEGGKDACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LTQRGFLAR---NLMYDDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSSWIVTAAHCLHQ-----SLDPGDPTLRDSDLLSPSDFKIILGKHWRLRSDENEQHLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YDNWVLTAAHAVYEQKHDASALDIRMGTLK---RLSP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MNKVLGRSLPTCLPVCGLPKFSRKLMARIFNGRPAQKGTTPWIAMLSHLNGQPFCGGSLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSSKGEKSLPVCEPVCGLS--ARTTGGRIYGGQKAKPGDFPWQVLIL---GGTTAAGALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             subcomponent C 1RBAR.GIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG
                                                                                                                                                                                                        d sequence of the catalytic chain MUID:83204782; PMID:6303394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NID:g179643; PIDN:AAA51851.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.4.21.41)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             precursor
                                                                                                                ٠
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -HYTQAWSEAVFIHEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human
                                                                     interactions
                                                                                                                Arlaud,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aude,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PID:g29539
                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PID:g179644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (validated) -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement-classical-path
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-Jun-2002
                                                                                                                                                                                                                                human
                                                                                                                                                                                                                                                                                                                                                                                                                                                            С.;
                                                                                                                G.
                                                                                                                                                                                                                                                                                                                                                                                                                   EGF-like domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       precursor
                                                                     of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gagnon,
                                                                                                                                                                                                                              complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      522
                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human
                                                                     isolated
                                                                                                                                                                                                                              subcom
                                                                                                                                                                                                                                                                                                                                                                                                                   of hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       com
                                                                     H
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
Š
                                          В
                                                                                   Š
                                                                                                                                   В
                                                                                                                                                                                Š
                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: S68830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activate
455
                                             415
                                                                                                                                                                                345
                                                                                                                                                                                                                              295
                                                                                                                                                                                                                                                                                                                        235
                                                                                                                                                                                                                                                                                                                                                                   226
                                                                                                                                                                                                                                                                                                                                                                                                                 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         115
                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
nes 301; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY
DFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDA---SALDIRMG---
                                          TRAGSRESEQGVYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMG
                                                                                                                                   TAVCQDDGTWHRAMPRCKIKDCGQPRNLPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQ
                                                                                                                                                                              TAVCOKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK
                                                                                                                                                                                                                              SRGWKLRYTTEIIKCPQPKTLDEFTIIQNLQPQYQFRDYFIATCKQGYQLIEGNQVLHSF
                                                                                                                                                                                                                                                     HTGWKIHYTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSF
                                                                                                                                                                                                                                                                                                                        KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                                                                                                                                                                                                                                                DFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                              SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                    SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TFRSDYSNEKP----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12p13-12p13
                                                                                     -NDGKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C4.
```

-TLKRLS

454 414 404 354 344 294 285 234 225 174 165 114

```
F;17-138/Domain: Clr/Cls repeat homology <CIRI>
F;18-463/Product: complement Clr chain A #status experimental <ACH>
F;18-169/Domain: EGF homology <EGF>
F;146-199/Domain: Clr/Cls repeat homology <CIR2>
F;193-302/Domain: Clr/Cls repeat homology <CIR2>
F;297-463/Product: Clr gamma fragment #status experimental <GFR>
F;297-463/Product: Clr gamma fragment #status experimental <FR>
F;309-371/Domain: complement factor H repeat homology <FH1>
F;309-371/Domain: complement factor H repeat homology <FH2>
F;316-447/Domain: complement Clr chain B #status experimental <BCH>
F;464-697/Domain: trypsin homology <TRY>
F;31-89,146-165,161-174,176-189,193-220,250-268,309-358,338-371,376-429,406-447,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Superfamily: complement subcomponent Clr; Clr/Cls repeat homology; complement facto C;Keywords: acute phase; beta-hydroxyasparagine; calcium binding; complement pathway; F;1-17/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 18-26; 'L',153-160; 'XX',252-255 <THI> R; Pelloux, S; Thielens, N.M.; Hudry-Clergeon, G.; Peti: FEBS Lett. 386, 15-20, 1996 A; Title: Identification of a cryptic protein kinase CK2 A; Title: Identification of a Cryptic protein kinase CK2 A; Reference number: S68830; MUID:96221263; PMID:8635594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Experimental source: plasma C;Comment: Clr is a dimer of identical chains, each of which is A chain, while fragment gamma remains disulfide-bonded to the B C;Comment: This protein is a serine protease that combines with
                                                                                                                                                                        F:125.221.514.581/Binding site: carbohydrate (Asn) (covalent) #status experimental F:167/Modified site: erythro-beta-hydroxyasparagine (Asn) #status experimental F:266/Binding site: phosphate (Ser) (covalent) (by caseth kinase I) #status exper. F:463-464/Cleavage site: Arg-Ile (autolytic) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: protein
A; Residues: 133-137; 187-211; 610-613
                                                                                                                                      .557,654/Active site: His, Asp, Ser #status predicted
       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDB:119729; OMIM:216950
                                 37.6%;
   108;
                                     Score 1412; DB 1;
Pred. No. 3.5e-86;
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <PEL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Petillot,
                                                               Length
   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphorylation
                                                                          705;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y.; Filhol,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           activated
chain to f
Clq and Cl
   64:
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ted by cleavage
to form Clr II.
d Cls to form C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0:
   22;
                                                                                                                                                                                                                     experime
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arlaud
```

```
F;181-293/Domain: Clr/Cls repeat homology <Clr2>
F;380-360/Domain: complement factor H repeat homology <FH1>
F;365-428/Domain: complement factor H repeat homology <FH2>
F;445-682/Domain: complement factor H repeat homology <FH2>
F;445-682/Domain: trypsin homology <TRY>
F;446-682/Domain: trypsin homology <TRY>
F;446-685/Product: serine proteinase light chain #status experimental <LCH>
F;71-89,141-133,149-162,164-177,181-208,240-257,300-347,327-360,365-410,392-428,432-556,
F;71-89,141-133,149-162,164-177,181-208,240-257,300-310-(Asn) #status predicted
0,413/Binding site: carbohydrate (Asn) (covalent) #status predicted
0,413/Binding site: carbohydrate (Asn) (covalent) #status predicted
0,536,638/Active site: H1s, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X16160; NID:g49621; PIDN:CAA34286.1; PID:g49622
A;Note: part of this sequence, including the amino ends of both the heavy and light cha:
C;Superfamily: complement subcomponent C1; C1r/C1s repeat homology; complement factor 1
C;Keywords: beta-hydroxyssparagine; calcium binding; duplication; glycoprotein; hydrolat;
F;1-21/Domain: signal sequence #status predicted <SIG>
F;1-7-133/Domain: C1r/C1s repeat homology <C1R1>
F;22-444/Product: serine proteinase heavy chain #status experimental <HCH>
F;141-177/Domain: EGF homology <CEF>
        ٠ ٧
                                                                                            뭥
                                                                                                                                          οy
                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-695 < KII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEBS Lett. 250, 411-415, 1989
A;Title: Complete primary structure of a calcium-dependent serine proteinase capable A;Reference number: S05008; MUID:89325606; PMID:2753140
A;Accession: S05008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: S05008
R;Kinoshita, H.; Sakiyama, H.;
FEBS Lett. 250, 411-415, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stement subcomponent C 1SBAR.GIF (EC 3.4.21.42) precursor [similarity] -
pecies: Mesocricetus auratus (golden hamster)
ite: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 03-Jun-2002
                               262 TLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYI
                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              698 K 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 507
                                                                                                                                                                                                                                                                                                                        82
                                                                                                                                                                                                                                                                                                                                                                                                                                      22
                                                                                                                                                                                                                                                                                                                                                                                                                                                             24 EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                         NPYPENSRCEYQILLEEGFQVVVTIQREDFDVEPADSQGNCQDSLLFAAKNRQFGPFCGN
                                                                                                                                             RPYPKLSSCTYSISLEEGFSVILDFV-ESFDVETHPETLCPYDFLKIQTDREEHGPFCGK
                                                                                                                                                                                                                                                        QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                                                                                                                                                                                                                     GVEEGRLCGQRTSKNANSPIVEEFQIPYNKLQVIFRSDFSNEERFTGFAAYYAAIDVNEC
                                                                                                                                                                                                                                                                                                                                                                       AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EPTMHGEILSPNYPQAYPNEMEKTWDIEVPEGFGVRLYFTHLDMELSENCEYDSVQIISG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHYTQAWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NHPIR----RVSVHPDYRQDESYNFEGDIALLELENSVTLGPNLLPICLP--DNDTFYDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              271;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1-695 <KIN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                    -CSHFCNNFIGGYFCSCPPEYFLHDDMRNCGVNCSGNVFTALIGEISSPNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tokunaga,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1244.5; DB 1; Pred. No. 4.8e-75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K.; Imajoh-Ohmi, S.; Hamada, Y.; Isono,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                  319
                                                                                                                                                                                                                                                                                                                                                                         142
                                                                                                                                                261
                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 564
                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                golden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ×.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of.
                                                                                                  A; Molecule type: protein
A; Molecule type: protein
A; Residues: 16-38; 68-116;170-236; 246-262; 265-280; 282-284; 287-308, 315-363; 384-394; 421-
A; Residues: 16-38; 68-116; 170-236; 700-714; 1989
J. Mol. Biol. 208, 709-714, 1989
A; Title: Complement genes C1r and C1s feature an intronless serine protease domain class reference number: S05834; MUID: 90040704; PMID: 2553984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 03-Jun-2002
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 03-Jun-2002
C;Accession: A40496; A27381; S00224; S26732; S05634; A05140; A25396; A38407; B37820
C;Accession: A40406; A27381; S01224; S26732; S05634; A05140; A25396; A38407; B37820
R;Kusumoto, H; Hirosawa, S.; Saliter, J.P.; Hagen, F.S.; Kurachi, K.
R;Kusumoto, H; Hirosawa, S.; Saliter, J.P.; Hagen, F.S.; Kurachi, K.
A;Title: Human genes for complement components C1r and C1s in a close tail-to-tail
A;Reference number: A40496; MUID:89017187; PMID:2459702
                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:M18767; NID:g179647; PIDN:AAA51853.1; PID:g179648 R;Mackinnon, C.M.; Carter, P.E.; Smyth, S.J.; Dunbar, B.; Fothergill, J.I. Eur. J. Biochem. 169, 547-553, 1987 A;Title: Molecular cloning of cDNA for human complement component Cls. The A;Reference number: S00224; MUID:88082788; PMID:3500856
A; Molecule type: DNA
A; Residues: 356-513, 'G', 514-688
                                                         A; Accession: S05634
 A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-688 < MAC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-688 <TOS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: Complete cDNA sequence of human complement C1s A;Reference number: A27381; MUID:88163522; PMID:2831944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:J04080; NID:g179645; R;Tosi, M.; Duponchel, C.; Meo, T.; Julier,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-688 < KUS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement subcomponent C 1SBAR.GIF (EC 3.4.21.42) precursor [validated] - N;Alternate names: C1 esterase precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                        A; Accession: S26732
                                                                                                                                                                                                                                                                                                               A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: A27381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochemistry 26, 8516-8524, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PYPRGS----VTANMLCAGLESGGKDSCRGDSGG--ALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTVSPICLPGTSSEYEPSEGDLGLISGWGRTERRNIVIQLRGAKLPVTSLEKCRQVKEEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VGSTSVRMENLANVQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --ALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----THDAGFDNDIALIKLNNKVVIN 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TEPFRIQQRIFGGFPAKIQSFPWQV-FFEFPRAGGALIGEHWVLTAAHVV-EGNSDPSMY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AR--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDAS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --DPENTLFGSVIHYSCEEPYYYMEHAEHGGEYRCAANGSWVNDELGIELPKCVPVCGVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ITGPGVTTYKAVIQYSCEETFYTMK--VNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FKDVVKISCVDGFEAVEGNVGSTFFYSTCQSNGQWSNSRLRCQPVDCGIPEPIQNGKVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GFPGPLTIETHSNTLDIVFQTDLTEQKKGWKLRYHGDPIPCPKEIT-ANSVWAPEKAKYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEY
                                                                                                                                                                                                                                                                                                                                                                                                 S00224
                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                               EMBL: X06596; NID: g29542; PIDN: CAA29817.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -KLTTDRVIIHPGWKPGDDLSTRTNFDNDIALVRLKDPVKMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIDN:AAA51852.1;
C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    close
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PID:g179646
                                                                                                                                                                                                                                                                                                             PID:g763110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              physical linkage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J.Е.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437
```

B37820

complete

```
A;Gross references: GDB:119730; OMIM:120580
A;Map position: 12p13-12p13
A;Introns: 291/1; 329/3; 356/1; 399/1; 424/1
A;Mote: the list of introns may be incomplete
C;Superfamily: complement subcomponent Clr; Clr/Cls repeat homology; complement factor H
C;Superfamily: complement subcomponent Clr; Clr/Cls repeat homology; complement pathway; du
127/Domain: signal sequence #status predicted <SIG>
127/Domain: clr/Cls repeat homology <CIR1>
A37/Product: complement subcomponent Cls #status experimental <MAT>
F:1437-171/Domain: EGF homology <EGF>
F:175-287/Domain: Clr/Cls repeat homology <CIR2>
F:294-354/Domain: Complement factor H repeat homology <FH1>
F:359-421/Domain: complement factor H repeat homology <FH2>
F:348-688/Product: complement factor H repeat homology <FH2>
F:438-688/Product: complement subcomponent Cls chain B (light chain) #status experimental
F:438-675/Domain: complement subcomponent Cls chain B (light chain) #status experimental
F:439-651/147,143-156,158-171,175-202,234-251,294-341,321-354,359-403,386-421,425-549,
F:149/Modified site: erythro-beta-hydroxyasparagine (Asn) (partial) #status experimental
F:437-438/Claavage site: Arg-Ile (complement subcomponent Clr) #status experimental
F:475,529,632/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 16-25; Yx ,203-207 <THI>
R; Thielens, N.M.; Van Dorsselaer, A.; Gagnon, J.; Arlaud, G.J.
Biochemistry 29, 3570-3578, 1990
A; Title: Chemical and functional characterization of a fragment of Cls con A; Reference number: A32672; MUID:90283368; PMID:2141278
A; Contents: annotation; erythro-beta-hydroxyasparagine site, content A; Note: about half of the A chains contain erythro-beta-hydroxyasparagine C; Comment: This protein is a serine proteinase that combines with Clq and C C; Comment: Cls is a dimer of identical chains, each of which is activated C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Residues: 16-61;168-219;287-293,'K',295-334;384-445 <SPY>
A; Residues: 16-61;168-219;287-293,'K',295-334;384-445 <SPY>
A; R; Hess, D.; Schaller, J.; Rickli, E.E.
Blochemistry 30, 2827-283, 1991
A; Title: Identification of the disulfide bonds of human complement Cls.
A; Reference number: A38407; MUID:91175725; PMID:2007122

**Residues: 138407
**Pecule type: protein idues: 131-134,'X',136-146,'X',148-150;155,'X',157-162;166-170,'X',172-174,'X',176-162-170,'X',404-408;416-424,'X',426-431;547-556;592-597;617,'X',619-627,'X',629-635

**R; Thielens, N.M.; Aude, C.A.; Lacroix, M.B.; Gagnon, J.; Arlaud, G.J.
J. Biol. Chem. 265, 14469-14475, 1990
A; Title: Ca(2+) binding properties and Ca(2+)-dependent interactions of the isolated NH-A; Reference number: A37820; MUID:90354439; PMID:2387866
              밁
                                                           QΥ
                                                                                                                            밁
                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: Human complement component Cls. Partial sequence determination A;Reference number: A25396; MUID:86164350; PMID:3007145 A;Accession: A25396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: protein
A;Residues: 438-433,'X',485-500;503-534;542-558;561-572,'A',574-601;617-623;626-644;647
R:Spycher, S.E.; Nick, H.; Rickli, E.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Gene: GDB:ClS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Spycher, S.E.; Nick, H.; Rickli, Eur. J. Biochem. 156, 49-57, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem. J. 215, 565-571, 1983
A;Title: The serine proteinase chain of human complement component Cls. A;Reference number: A05140; MUID:84104122; PMID:6362661
A;Accession: A05140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carter, P.E.;
Lochem. J. 215,
              54
                                                              61
                                                           FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                         MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
     FTHLDIELSENCAYDSVQIISGDTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSD
                                                                                                                   MWCIVLFSLLAWVYAEP-----TMYGEILSPNYPQAYPSEVEKSWDIEVPEGYGIHLY
                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dunbar, B.;
, 565-571, 19
                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                            32.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fothergill,
                                                                                                                                                                                                                                     102;
                                                                                                                                                                                                                                                            Score 1238; DB 1;
Pred. No. 1.3e-74;
                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J.E.
                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                     48;
                                                                                                                                                                                                                               Gaps
                                                           120
                                                                                                                   53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cyanogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       c1r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                  18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heavy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bromid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
Query Match
Best Local Similarity
Matches 262; Conserv
```

```
639
                                                     640
                                                                                                        580
                                                                                                                                                                                                                                                            524
                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                               475
                                                                                                                                                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            298
QDPNDKTKFYAAGLVSWGP----QCGTYGLYTRVKNYVDWI
                                                                                                   VRLKAARLPVAPLRKCKEVKVEKPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAV
                                                                                                                              RNLMYVDIPIVDHQKC-TAAYEKPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVF
                                                                                                                                                                                                                                                                                                                                                            DNWVLTAAHAVYEQKH-----DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KLKCQPVDCGIPESIENGKVE---DPESTLFGSVIRYTCEEPYYYMENGGGGEYHCAGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MPACSIVDCGPPDDLPSGRVEVITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYVCEADG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MPCP-KEDTPNSVWEPAKAKYVFRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LCPYDFLKIQTDREEHGPFCGKTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GVNCSGDVFTALIGEIASPNYPKPYPENSRCEYQIRLEKGFQVVVTLRREDFDVEAADSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                   LD-SETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                         EYWVLTAAHVVEGNREPTMYVGSTSVQTSRLAKSKMLTP-----EHVFIHPGWKLLEV
                                                                                                                                                                                                                                                                                                                                                                                                               SWVNEVLGPELPKCVPVCGVPREPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GNCLDSLVFVAGDRQFGPYCGHGFPGPLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FSNEERFTGFAAYYVATDINECTDFV-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMKNC
                                                                                                                                                                                                                                                      -THDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FWTSSKGEKSLPVCEPVCGLSAR---TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLY
                                                                                                                                                                                                         PEGRTNFONDIALVRLKDPVKMGPTVSPICLPGTSSDYNLMDGDLGLISGWGRTEKRDRA
                                                                                                                                                                                                                                                                                                                                                                                                             466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                407
                                                                                                                                                                                                                                                                                                                                                            523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            291
```

C:Accession: JC6554 R:Sakai, H:, Nakashima, S.; Yoshimura, S.; Gene 209, 87-94, 1998 A:Title: Molecular cloning of a cDNA encod! A:Reference number: JC6554; MUID:98192519; C:Superfamily: complement subcomponent C1r: C1r/C1s repeat homology; coc: Keywords: differentiation; glycoprotein; hydrolase; serine proteinase F:121/Domain: signal sequence #status predicted <SIG>F:17-133/Domain: C1r/C1s repeat homology <C1R> A;Residues: 1-694 <SAK>
A;Residues: 1-694 <SAK>
A;Cross-references: DDBJ:D88250; NID:g3080541; PIDN:BAA25797.1; PID:g3080542
C;Comment: This protein is involved in glial cell differentiation and cartil complement subcomponent C 1SBAR.GIF (EC 3.4.21.42) C;Species: Rattus norvegicus (Norway rat) C;Date: 05-Dec-1998 #sequence\_revision 05-Dec-1998 F;300-360/Domain: complement factor H repeat homology F;444-681/Jomain: trypsin homology GRY>
F;184,412/Binding site: carbohydrate (Asn) (covalent) F;180,412/Binding site: carbohydrate (Asn) (covalent) F;481,535,637/Active site: His, Asp, Ser #status predictions. F;22-694/Product: serine protease homolog #status predicted F;141-177/Domain: EGF homology <EGF> A;Gene: r-gsp A; Molecule type: A; Accession: JC6554 mRNA of a cDNA encoding a serine; MUID:98192519; PMID:9524231 Asp, Nishimura, Y.; lent) #status predicted precursor [similarity] protease Sakai, predicted N.; Nozawa, cartilage င် 

complem

remod

Conservative

382

. 68 108;

Score Pred.

DB 2; 5.1e-73;

Mismatches 1214; No. 5.

Indels

40;

Gaps

19;

```
polyprotein - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999
C;Accession: T30337
R;Yang, J.C.; Lindsay, L.L.; Hedrick, J.L.
                                                                                                                                                  A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1524 <YAN>
A;Cross-references: EMBL:U81290; NID:g2981640; PID:g2981641; PIDN:AAC24717.1
                                                                                                                                                                                                                                                      R:Yang, J.C.; Lindsay, L.L.; Hedrick, J.L.
submitted to the EMBL Data Library, March:
A;Description: cDNA cloning of ovochymase,
A;Reference number: Z20829
      몽
                                        δÃ
                                                                                                                                                                                                                                      A; Reference number: A; Accession: T30337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                    Query Match
                                                                                  Matches
        318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                143
                                        26 VFGRLASPGFP--GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24
ITGKNGTVRYPLSGNYSINSVCRWMLAVQKAKTIEIRFLQLDIEDHATCTFDYLSFTVNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KCGTYGIYTKVKNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YPRGS---VTANMLCAGLESGGKDSCRGDSGG--ALVFLDSETERWFVGGIVSWGSMNCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RPYPKLSSCTYSISLEEGFSVILDF-VESFDVE-THPETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KARSNDYVFTDNMICAG---EKGVDSCEGDSGGAFALPVPNVKDPKFYVAGLVSWGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVAPICLPETFSDYNPSEVDLGLISGWGRTEIRTNVIQLRGAKLPITSLEKCQQVKVENP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MYVGSTLLKIERLR-NAQRLITERVIIHPSWKQEDDLNTRTNFDNDIALVQLKDPVKMGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YITGPGVTTYKAVIQYSCEETFYTMKVND-GKYVCEADGFWTSSKGEKSLPVCEPVCGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VFKDVVKITCVDGFEVVEGNVGSTSFYSTCQSNGQWSNSRLECQPVDCGVPEPIENGKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TDFT-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMRTCGVNCSGDVFTALIGEIASPNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHD - - - - - AGFDNDIALIKLNNKVVINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TEPFKVQQRIFGGYSTKIQSFPWQVYFESPRGG----GALIDEYWVLTAAHVVEGNSDPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR--TTGGRIYGGQKAKPGDFPWQVLI---LGGTTAAGALLYDNWVLTAAHAVYEQKHDA 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --- DPEDTVFGSVIHYTCEEPYYYMEQEEGGEYHCAANGSWVNDQLGVELPKCIPVCGVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NGFPGPLTIKTQSNTLDIVFQTDLTGQNKGWKLRYHGDPIPCPKEIS-ANSIWEPEKAKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NPYPENSRCEYQIRLQEGFRLVLTIRREDFDVEPADSEGNC-HDSLTFAAKNQQFGPYCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GIEEERLCGQRSSKSPNSPTVEEFQFPYNRLQVVFTSDFSNEERFTGFAAYYSAVDVNEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EPTMYGEILSPNYPQAYPNEVVKTWDIEVPEGFGIHLYFTHLDMELSENCAYDSVQIISG
                                                                                                    Similarity
                                                                                  Conservative
                                                                                                  14.48;
25.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 679
                                                                            93;
                                                                    Score 541.5; Ub ., ored. No. 6.5e-28;
                                                                                                                                                                                                                                                                                            1998
                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                        chymotrypsin-like
                                                                                                                                                                                                                                                                                                                                                    #text_change
                                                                                Indels
                                                                                                                  Length
                                                                                205;
                                                                                                                                                                                                                                                                        protease
                                                                                                                                                                                                                                                                                                                                                      22-Oct-1999
                                          83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  437
    377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82
                                                                                                                                                                                                                                                                            released
                                                                                27;
                                                                                                                                                                                                                                                                            from
                                                                                                                                                                                                                                                                            ×
                                                                                                                                                                                                                                                                                    C;Species: Tachypleus tridentatus
C;Date: 04-Oct-1991 #sequence_revision 04-Oct-1991 #text_change 08
C;Accession: A38738; B38738; S00105
C;Accession: A38738; Misumi, Y.; Tokunaga, F.; Nakamura, T.; Tol
J. Biol. Chem. 266, 6554-6561, 1991
A;Title: Limulus factor C. An endotoxin-sensitive serine protease:
A;Reference number: A38738; MUID:91177916; PMID:2007602
                                                                                                                                                                                                              A;Molecule type: mRNA
A;Residues: 1-1019 <MUT>
A;Cross-references: GB:D90271; NID:g217396; PID:d1015020; PID:g217397
                                                                                                                                                                                                                                                                                                                                                                                                                           coagulation factor C precursor - horseshoe crab (Tachypleus tridentatus) N;Alternate names: coagulation-complement factor C; Limulus factor C N;Contains: coagulation factor C heavy chain; coagulation factor C light
                                                                                              A;Cross-references: GB:D90272
R;Tokunaga, F.; Miyata, T.; Nakamura,
Eur. J. Biochem. 167, 405-416, 1987
                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-466,616,'DN',619-620,'A',622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
  A; Molecule type: protein
                                        A; Reference number:
                                                                          A; Title: Lipopolysaccharide-sensitive serine-protease zymogen
                                                                                                                                                                                                A; Accession: B38738
                                                                                                                                                                                                                                                                        A; Accession: A38738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맒
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QY
                                is a novel type of serine protease.
.;Reference number: S00105; MUID:88004461; PMID:3308457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSKPGVYTKVRLFFTWIQNTQQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGQYGVYTKVINYIPWIENIISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KPPYPRGSVTANMLCAGLESG-GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NDFVRPVCLP--EPEEVLTPASVCVVTGWGNTAEDGQPALGLQQLQLPILDSIICNTSYY 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NSNITPICLPRKEAESFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -RAAEPSYWTVIAGDHNRMLNESTEQIRNIKTIRIHDNYNSET-YDNDIALLYLEEPLDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DVCGMAPMTPKWWLPRIVGGEEASPNSWPWQVQIFFLRTFHCEGAIISPQWILTAAHCI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -VCGLSARTTG---GRIYGGQKAKPGDFPWQVLILGGTT--AAGALLYDNWVLTAAHAVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FVPKE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LCGYTLPLPISSPENTMLIRFKTDMENSYPGFKVKFS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FCGKTLPHRIETKSNTYTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PDPYPRLKTCSWIIEAPENHIVKLKF-EDFNVEYGHG---CIYDAVEVYDGAEEKQLIAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRPYPKLSSCTYSISLEEGFSVILDEVESFDVE-THPETLCPYDFLKIQTDREEH---GP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KMIRKVCG----STIPSP----LIVRSNKVTVTFFSDGT----FTGRGFEIQFLA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFT--GFEAFYAAEDIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EQKHDASALDIRMGTLKRLSPHYTQAWS - - EAVFIHEGYTHDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----IPT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GELTDHMLCAGFPSSKEKDACQGDSGGPLV-CQNEKEQFSIYGLVSWGE-GCGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----KQFSL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------KAASACGSAKILKKKGMIYSPNY
                                                                                                                  T.;
                                                                                                                  Morita,
                                                                                                                                                          MU2:
                                                                                                                  H
:.
                                                                                                                                                                                                                                                                                                                                                                                        #text_change 08-Dec-2000
                                                                                                                    Kuma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -TISMLHPRAIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---PVDDTP----
                                                                                                                  K.I.;
                                                                            (factor C)
                                                                                                                                                                                                                                                                                                                                                    Toh,
                                                                                                                Miyata,
                                                                                                                                                                                                                                                                                                            zymogen with a
                                                                                                                                                                                                                                                                                                                                                    Y.; Ikehara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                              of horseshoe
                                                                                                                                                                                                                                                                                                                                                                                                                                 chain
```

Τ.,

Iwanaga

peptid

mosa

6

```
A; Residues: 'S',27-39, 'S',41,'T',43-54, 'E',691-782;950-977 <TOK>
C; Superfamily: coagulation factor C; C-type lectin homology; complement factor H repeat C; Superfamily: coagulation factor C; C-type lectin homology; complement factor H repeat homology; complement factor H repeat homology; complement lector SiG>
F;10-5/Domain: signal sequence #status predicted <SiG>
F;26-69/Product: coagulation factor C heavy chain #status experimental <HCH>
F;199-254/Domain: complement factor H repeat homology <FH01>
F;260-321/Domain: complement factor H repeat homology <FH03>
F;260-321/Domain: complement factor H repeat homology <FH03>
F;365-634/Domain: complement factor H repeat homology <FH04>
F;565-634/Domain: complement factor H repeat homology *Status atypical <FH05>
F;691-762/Product: coagulation factor C light chain peptide A #status experimental <PPAF;763-1015/Domain: trypsin homology <TRY>
F;576-105/Domain: trypsin homology <TRY>
F;5767/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;607/Binding site: carbohydrate (Asn) (covalent) #status experimental <PPAF;809,865,966/Active site: His, Asp, Ser #status predicted
oviductin (EC 3.4.21.-) - African clawed frog C:Species: Xenopus laevis (African clawed frog) C:Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_char C:Accession: 730338; A40242 R;Lindsay, L.L.; Wieduwilt, M.J.; Hedrick, J.L. Biol. Reprod. 60, 989-995, 1999 A:Fittle: Oviductin, the Xenopus laevis oviductal protease the omposed of two protease and several CUB domains. A:Reference number: Z20830; MUID:99184825; PMID:10084976 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    408
                                                                                                                                                                                                                                                                                                                                                                                                                             964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 500 HRLDAEKPFVWELMDRSNVVLNDNLTFWASGEPGNETNCVYLDIRDQLQPVWKT--KSCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 HRIET------KSNTV---TITF-VTDESGDHTG-----WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
les 152; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                   WSEAVFIHEGYTHDAGFDN-DIALIKLNNKVVINSNITPICLPRK-EAESFMRTDDIGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGWGLNENNTYSEMIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDACS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KSFTAVCQKDGSWDRPMPAC-SIVDC-GPPDDLPS-GRVEYITGPGVTT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -REALETHVNPNYDPGNLNFDIALIQLKTPVTLTTRVQPICLPTDITTREHLKEGTLAVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DHNMWFLQCGGSLLNEKWIVTAAHCVTYSATAEIIDPSQFKIYLGKYYRDDSRDDDYVQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---LGGTTAAGALLYDNWVLTAAHAV----YEQKHDASALDIRMGTLKR---LSPHYTQA 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPRLPLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ 731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QPSSFACMMDLSDRNKAKCDDPGPLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----YKAVIQ--YSCEETFYTMKVND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : Score 471.5; DB 2; Pred. No. 1.8e-23; 61; Mismatches 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                  #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1019
                                                                                                                               that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133;
                                                                                                                               processes
                                                                                                                                                                                                                                    01-Dec-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  experimental <PPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                             egg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27;
                                                                                                                             envelope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  serin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <PPA:
                                                                                                                             9
```

RESULT JC7731

10

membrane-bound arginine-specific

serine proteinase

precursor -

```
A;Cross-references: EMBL:U81291; NID:g1754713; PID:g1754714; PIDN:AAB53972.1 R:Hardy, D.M.; Hedrick, J.L. Biochemistry 31, 464472, 1992 A;Title: Oviductin. For example of the oviductal protease the A;Reference number: A40242; MUID:92256375; PMID:1581303 A;Accession: A40242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues: 46-73 <HARP
C;Comment: This protease is found in oviductal secretory granules
C;Superfamily: trypsin homology
C;Keywords: extracellular protein; hydrolase; serine proteinase
                                                                                                      δÃ
                                                                                                                                             밁
                                                                                                                                                                               Š
                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Residues: 1-1004 <LIN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                     625
                                                                                                                                                                                                                                                         484
                                                                                                                                                                                                                                                                                                                                                                     557
                                                                                                                                                                                                                                                                                                                                                                                                       370
                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               415
   795
                                                                       739
                                                                                                                                                                543 VINSNITPICLPRKEAESEMRTDDIGTASGWGLTQRGFLAR----NLMYVDIPIVDHQKCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133 FYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQR 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252 LTSWGMGCGR-----SWKNNVFLPHNRKGSPGIFTDIQKLLGWVSSQLNTAVPNKNQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 LTLLGLLCGSVATPLGPKWPEPVF---GRLASPGF-------
                                                                                                                                                                                                                                                                                                                             CEPVCGLSARTTGGRIYGG----QKAKPGDFPWQVLI--LGGTTAAGALLYDNWVLTAAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTD-
NCKENSKPGIYTKVSPFIDWIRQIMSD
                                   NCGEAGQYGVYTKVINYIPWIENIISD
                                                                    AHYIQNP----GGITDRMLCAGIGTGQDNDSCSEQSGSPLVCLLEKKGIYTIFGIASWG-V
                                                                                                      AAYEKPPYPRGSVTANMLCAGLESG-GKDSCRGDSGGALVFLDSETERWFVGGIVSWGSM
                                                                                                                                            QFNSDIFPICLPGKTSE--LAPASLCVVSGWSL--RGKEAEKSTKLQQREVPILTDDACS
                                                                                                                                                                                                                     CVLNRKFNDVWLVDPGIHDLLR-PGHNQKGLVKQIIPHPSFSSQTN-DFDIALVELDESL
                                                                                                                                                                                                                                                     AVYEQK-HDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKV
                                                                                                                                                                                                                                                                                           QDSICGVS-QVPPIFIYNSIAKVEEAVPHSWPWHTSLQYAGEHVCDGAIIAENWILTTAS
                                                                                                                                                                                                                                                                                                                                                                                                     DDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPV
                                                                                                                                                                                                                                                                                                                                                                                                                                         FVSP---NSLVEDS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAEDKIETFCGFSLPAPVYSTTAVMHIKFSTDERDNDKGFRATFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --REEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YYSA-----VEPNTYP--DSGC----GSF-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LDYLAIYTDSHRLIGKFCGD------IPPRSLLISF-SSIKLNFFSDFHENR--TGFVL 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YDFVKL-SSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SCSMQDGVLSGKSGELIFLKNPMSVTRTMSGAPGFSLSLKTCTSCLNFTHLDIESDFACN 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GEIQSMNYPENYLSNSRCHWIIHGPSGSYIKLQF-EDFALE--PSDDCRSDYLAVYQDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         -----RQGNMP------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 467; DB 2;
Pred. No. 3.6e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                   685
 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----AVLFEE-
                                                                                                                                                                                                                                                                                                                                                                 STNKKETTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protease that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                        658
                                                                                                                                            738
                                                                                                                                                                                                                   682
                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                               565
                                                                                                                                                                                                                                                                                                                                                                                                     429
                                                                                                                                                                                                                                                                                                                                                                                                                                       556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          proces
```

```
C;Species: Rattus norvegicus (Norway rat)
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 14-Dec-2001
C;Accession: JC7731
R;Kishi, K.; Yamazaki, K.; Yasuda, I.; Yahagi, N.; Ichinose, M.; Tsuchiya, Y.; Athau
J. Biochem. 130, 425-430, 2001
A;Title: Characterization of a membrane-bound arginine-specific serine protease from
A;Reference number: JC7731; MUID:21421307; PMID:11530019
A;Accession: JC7731
A;Molecule type: mRNA
A;Residues: 1-855 <KIS>
A;Cross-references: DDBJ:AB049189
A;Experimental source: strain Male, 7-week-old
C;Comment: This enzyme, localized mainly on brushborder membranes of the intestine,
C;Keywords: protein digestion
                                                                                                     В
                                                                                                                               Qy
                                                                                                                                                                                           δÃ
                                             В
                                                                       δõ
                                                                                                                                                                В
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local :
                                                                                                                                                                                                                                                          487
                                                                                                                                                                                                                                                                                                                   430
                                                                                                                                                                                                                                                                                                                                                                                                           489
                                                                                                                                                                  707
                                                                                                                                                                                                                                                                                                                                                549
                                                                                                                                                                                                                                                                                                                                                                              378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             госат
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ø
                                                                                                                                                                                 GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTA---SGWGLTQRGFL-AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VLTSVVAFPIDPRMLQRTQDNSCSFALHARGRTVTRFTTPGFPNSPYPAHARCQWVLRGD
                                             -GRIFQAGVVSWGE-GCAQRNKPGVYTRIPEVRDWIK
                                                                       TERWFYGGIVSWGSMNCGEAGQYGYYTKVINYIPWIE 680
                                                                                                                                 NLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSE
                                                                                                                                                                TFDYDIALLELEKPAEYSTVVRPICLPDN----THVFPAGKAIWVTGWGHTKEGGTGAL
                                                                                                                                                                                                                          DETIFKYSDHTMWTAFLGLLDQSKRSASGVQEHKLKRIITHPS-----FNDF
                                                                                                                                                                                                                                                                                     CD--CGLRSFTKQARVVGGTNADEGEWPWQVSLHALGQGHLCGASLISPDWLVSAAHCFQ
                                                                                                                                                                                                                                                                                                     CEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVY
                                                                                                                                                                                                                                                                                                                                                DCGDGSDEASCDNVNAVSC--TKYTYRCQNG--LCLNKGNPECDGKKDCSDGSDEKN---
                                                                                                                                                                                                                                                                                                                                                                           EYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVC-----EADGFWTSSKG--EKSLPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TDTGFLAEYLSYDSNDPCP-----GMFMCKTGRCIRKDLRCDGWADCPDYSDERHCRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKYILKD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RFKLFYLVDPNIPVGSCTKDYVEINGEK-----FCGERSQFVVSSNSSKITVHFHSDHSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADSVLSLTFRSFDVAPCDGHDSDLVTVYDSLSPMEPHAVVRLCGTFS-----PSYNLTF
                                                                                                      ILQKGEIRVINQTTCEELLPQ
                                                                                                                                                                                                                                                                                                                                                                                                        ETGYELLQGHLPLKSFTAVCQK-----DGSWDR--PMPA----CSIVDCGPPDDLPSGRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LSSQNVFLVTLITNTDRRHP--GFEATFFQLPKMSSC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK----VLATLCGQESTDTERAPGKD-TF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLCGSVATPLGPKWPE-------PVFGRLASPGFPGE-YANDQERRWTLTAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 al Similarity
187; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12.4%; Score 466.5; DB 2; 24.7%; Pred. No. 3.2e-23; tive 102; Mismatches 285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GGLLSEAQGTFSSPYYPGHYPPNINCTWNIKVPNNRNVKV
                                                                                                                                                                                                                                              -KHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDA
                                                                                                     ---QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEKD
                                           850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----SFS----IFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                      815
                                                                                                                                                                                                                                                                                                                   486
                                                                                                                                                                                                                                                                                                                                                                            429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               435
                                                                                                                                  643
                                                                                                                                                                761
                                                                                                                                                                                                                           706
                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                          548
                                                                                                                                                                                                                                                                                                                                                                                                                                       377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Athauda,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ra
                                        δÃ
                                                                       В
                                                                                                  Ω
                                                                                                                                                           Qy
                                                                                                                                                                                            멍
                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                             γg
                                                                                                                                                                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                  DЪ
                                                                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: JC7775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JC7775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genetics:
                                                                                                                                                              487
                                                                                                                                                                                                                                                                                                                                                                            436
                                                                                                                                                                                              602
                                                                                                                                                                                                                          430
                                                                                                                                                                                                                                                       549
                                                                                                                                                                                                                                                                                                                   489
              762
                                                                       707
                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                               329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                        285
                                                                                                                                                                                                                                                                                                                                                                                                                                      381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mt-spl
                                                                                                                                                              EQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         187;
```

```
A;Molecule type: mRNA
A;Residues: 1-855 <SAT'>
A;Residues: 1-855 <SAT'>
A;Cross-references: DDBJ:AB037898
C;Comment: This enzyme, an epithelial-derived, type II integral membrane serine prote
ciated with epithelial migration and/or cell loss not only as an upstream activator o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Rattus norvegicus (Norway rat)
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 01-Feb-2002
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 01-Feb-2002
C;Accession: JC7775
R;Satomi, S.; Yamasaki, Y.; Tsuzuki, S.; Hitomi, Y.; Iwanaga, T.; Fushiki, T.
Blochem. Biophys. Res. Commun. 287, 995-1002, 2001
A;Title: A role for membrane-type serine protease (MT-SP1) in intestinal epithelial A;Reference number: JC7775; PMID:11573963
A;Contents: Small intestine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 membrane type-serine protease 1 - rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         192 VLTSVVAFPIDPRMLQRTQDNSCSFALHARGRTVTRFTTPGFPNSPYPAHARCQWVLRGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9 LLCGSVATPLGPKWPE------PVFGRLASPGFPGE-YANDQERRWTLTAP 52
                                                        NLMYVDIPIVDHOKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSE 643
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TDTGFLAEYLSYDSNDPCP-----GMFMCKTGRCIRKDLRCDGWADCPDYSDERHCRC
                                                                                                                                                                                                  GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTA---SGWGLTQRGFL-AR
                                                                                                                                                                                                                                                                                                                                                                                                            CD--CGLRSFTKQARVVGGTNADEGEWPWQVSLHALGQGHLCGASLISPDWLVSAAHCFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DCGDGSDEASCDNVNAVSC--TKYTYRCQNG--LCLNKGNPECDGKKDCSDGSDEKN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVC-----EADGFWTSSKG--EKSLPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYC
ILQKGEIRVINQTTCEELLPQ------QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEKD
                                                                                                                                                                                                                                                                     DETIFKYSDHTMWTAFLGLLDQSKRSASGVQEHKLKRIITHPS-----FNDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NATHQFMCKNQFCKPLFWVCDSVNDCGDGSDEEGCSCPAGSFKCSNGKCLPQSQQCNGKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ETGYELLQGHLPLKSFTAVCQK-----DGSWDR--PMPA----CSIVDCGPPDDLPSGRV 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKYILKD-----SFS----IFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RFKLFYLVDPNIPVGSCTKDYVEINGEK-----FCGERSQFVVSSNSSKITVHFHSDHSY 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEVESEDVETH-PETLCPYDELKIQTDREEHGPFCGKTLPHRIETKSNTVTITEVTDESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LSSQNVFLVTLITNTDRRHP--GFEATFFQLPKMSSC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADSVLSLTFRSFDVAPCDGHDSDLVTVYDSLSPMEPHAVVRLCGTFS-----PSYNLTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK-----VLATLCGQESTDTERAPGKD-TF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      basolateral cell surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative 102; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12.4%;
24.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GGLLSEAQGTFSSPYYPGHYPPNINCTWNIKVPNNRNVKV
                                                                                                                                                                                                                                                                                                                                     KHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDA 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 466.5; DB 2
Pred. No. 3.2e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        488
815
                                                                                                                                  761
                                                                                                                                                                                                                                                                                                                                                                                                            659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   33;
```

```
ducts.
C; Function:
A; Description: c
                                                                                                                                                                                                                                                                                                                                                          -631/Domain: C1r/C1s repeat homology <C1R>
-677/Domain: LDL receptor ligand-binding repeat homology <LDL2>
-783/Domain: Scavenger receptor cysteine-rich domain homology *status atypical F:785-1019/Product: enteropeptidase light chain *status predicted <LCH>
E:785-1014/Domain: trypsin homology <TRY>
E:116.147,179,338,335,388,440,470,503,534,630,682,706,725,848,887,909,949/Binding si E:772-896,810-826,910-977,941-956,967-995/Disulfide bonds: *status predicted E:825,876,971/Active site: His, Asp, Ser *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nillernate names: enterokinase
C:Species: Homo sapiens (man)
C:Date: 19-May-1995 #sequence_revision 09-Aug-1996 #text_change
C:Accession: A56318; B43090
R:Kitamoto, Y:; Veile, R.A.; Donis-Keller, H.; Sadler, J.E.
Blochemistry 34, 4562-4568, 1995
Blochemistry 34, 4562-4568, 1995
A:Title: cDNA sequence and chromosomal localization of human ent
A:Reference number: A56318; MUID:95234679; PMID:7718557
A:Accession: A56318
    Š
                                            Вb
                                                                                δÃ
                                                                                                                         В
                                                                                                                                                             δÃ
                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Description: cleaves activation peptide from trypsinogen to produce active trypsin A;Pathway: intestinal digestive hydrolase cascade C;Superfamily: enteropeptidase; CIr/Cls repeat homology; LDL receptor ligand-binding C;Keywords: glycoprotein; hydrolase; serine proteinse; transmembrane protein; zymog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GDB:384083; OMIM:226200
A;Map position: 21q21-21q21
C;Complex: Mature enteropeptidase is variou
                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Comment: The mechanism of association with the membrane of the intestinal brush otated below) or with amino-terminal myristoylation of the heavy chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
A56318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F:1-784/Product: enteropeptidase heavy chain #status predicted <HCH>F:22-38/Domain: transmembrane #status predicted <TMM>F:184-221/Domain: LDL receptor ligand-binding repeat homology <LDL1>F:184-221/Domain: MAM homology <MAM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Gene: GDB: PRSS7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 749-1019 <KI2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: A43090; MUID: 94329561; A; Accession: B43090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;1-784/Product:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:U09860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           enteropeptidase (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inclecule type: mRNA idues: 1-1019 <KIT>
idues: 1-1019 <KIT>
s-references: GB:U09860; NID:g746412; PIDN:AAC50138.1; mmoto, Y.; Yuan, X.; Wu. Q.; McCourt, D.W.; Sadler, J.E.
Natl. Acad. Sci. U.S.A. 91, 7588-7592, 1994
Title: Enterokinase, the initiator of intestinal digestion,
                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Complex: Mature enteropeptidase is variously reported to contain two (heavy and light by a disulfide bond. Possibly, conversion from membrane-bound to soluble forms involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Status: nucleic acid sequence
                                            335
      165
                                                                                                                           287
                                                                                                                                                                                                          227
                                                                                                                                                                   78
                                                                                                                                                                                                                                                  28
                                                                                                                                                                                                                                                                                                         Local
      CSCRAG
                                                                                                                         ---GSSKIL-----RASIWETNPGTIRIFS
                                                                                                                                                                                                                                       GRLASPGFPG-----EYANDQER----RWTLTAPPGYRLRLYFTHFDLELSHLCE-YDFV 77
                                        NSSELNNYEKINCNFEDGFCFWVQDLNDDNEWERIQGSTFSPFTGPNFDHTFGN-ASGFY
                                                                                                                                                             KLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA. 136
                                                                                                                                                                                                     GRFLLTGSSGSFQATHYPKPSETSVVCQWIIRVNQGLSIKLSFDDFNTYYTDILDIYEGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -GRIFQAGVVSWGE-GCAQRNKPGVYTRIPEVRDWIK 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                          193;
                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.4.21.9) precursor -
                                                                                                                                                                                                                                                                                                         11.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     not shown
                                                                                                                                                                                                                                                                                                       Score 443; DB 1;
Pred. No. 1.4e-21;
                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                       --NQVTATFLIE-SDESDYVGFNATYTAF
                                                                              EDIDECQVAPGEAPTCDHHCHNHLGGFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PMID: 8052624
                                                                                                                                                                                                                                                                                                                          Length 1019;
                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PID:g746413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            enterokinase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mosaic
                                                                                                                                                                                                                                                                                  Gaps
                                                                                164
                                                                                                                       334
    170
                                        393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                                                                                                                                  42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            proteolyt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   zymogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     borde
                                                                                                                                                                                                                                                                                                                                                                                                           site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               compa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <SRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
A48050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
Matches
                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       289
```

```
GFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGP----GVTTYK--AVIQYSCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ISTPTGPGGRQERVGLLSLPLDPTLEPACLSFWYHMYGENVHKLSINISNDQNMEKTVFQ
                                                                                                                                                                                                                  -MCQENNRWFLAGVTSFG-YKCALPNRPGVYARVSRFTEWIQSFL
                                                                                                                                                                                                                                                                               FLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                        GTTANILQEADVPLLSNERC----QQQMPEYNITENMICAGYEEGGIDSCQGDSGGPL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WLVSAAHCVYGRNLEPSKWTAILGLHMKSNLTSPQTVPRLIDEIVINPHYNRRRK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WVLTAAHAVYEQKHDASALDIRMG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QDSLIRLQCNHKSCGKKLAAQDITPKIVGGSNAKEGAWPWVVGLYYGGRLLCGASLVSSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENWTTQISND----VCQLLGL----GSGNSSKPIFSTDGGPFVKLNTAPDGHLILTPSQQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ETFYTMKVNDGKYVCEADGFWTSSKGEKSLPV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----CE-DGSDE-----ADC------VREFNGTTNNNGLVRFRIQSIWHTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FKANFTT----GYHLGIP----EPCKA-----DHFQ--CKNGECVPLVNLCDGHLH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETG-----YELLQGHLPLKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VETHPETLCPYDFLKIQTDREEH----GPFCGKTLPHRIETKSNTVTITEVTDESGDHTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEGNYGDNWNYGQVTLNETVKFKVAFNAFKNKILSDIALDDISLTYGICNGSLYPEPTLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ------C-EPVCG--LSARTTGGRIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LEN-----INDVVEIRDGEEADSLLLAVYTGPGPVKDVFSTTNRMTVLLITNDVLARGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTPPPELPTDCGGPFELWEPNTTFSSTNFPNSYPNLAFCVWILNAQKGKNIQLHFQE-FD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -DNDIAMMHLEFKVNYTDYIQPICLP-EENQVFPPGRNCSIA-GWGTVVYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -QRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFD
10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -TLKRL-----SPHYTQAWSEAVFI
                                                            horseshoe
#text_change 16-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                        638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   667
```

A:Cross-references: GB:D14701; NID:g452529; PIDN:BAA03528.1; A:Experimental source: hemocyte lysate A:Note: sequence extracted from NCBI backbone (NCBIN:138529, C:Superfamily: serine proteinase easter: trypsin homology C:Keywords: hydrolase; serine proteinase F:115/Domain: signal sequence #status predicted <SIG>F:148-387/Domain: trypsin homology <TRY> A;Status: preliminary
A;Molecule type: mRNA;
A;Residues: 1-400 <MUT> R;Muta, T.; Oda, T.; Iwanaga, S.
J. Biol. Chem. 268, 21384-21388, 1993
A;Title: Horseshoe crab coagulation factor
A;Reference number: A48050; MUID:94012695; coagulation factor B (EC 3.4.21.-) precursor - C;Species: Tachypleus tridentatus C;Date: 10-Sep-199 #sequence\_revision 10-Sep-1 C;Accession: A48050 R;Muta, T; Oda, T.; Iwanaga, S. A; Accession: A48050 Local Similarity Conservative protein 11.8%; 31.4%; 59; Score 442. Pred. No. Mismatches B. A unique PMID:8407978 ູດຸ່ .1e-DB 1; Length serine Indels crab (Tachypleus tridentatus PID:9452530 NCBIP: 138530; 400; protease zymogen activa 87; Gaps 18

```
R; Finelli, A.L.; Xie, T.; Bo
Genetics 141, 271-281, 1995
A; Title: The tolkin gene is
A; Reference number: $58984;
A; Accession: $58984
                                                                                                                       DЬ
                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Drosophila melanogaster
C;Date: 19-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 21-Jul-2000
C;Accession: $58984
  Š
                                       В
                                                                       QΥ
                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-1464 <FIN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               development protein tolkin (EC 3.4.24.-) - fruit fly (Drosophila melanogaster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Residues: 1-1464 <FIN>
A;Cross-references: EMBL:U34777; NID:g1002985; PIDN:AAC47015.1;
A;Cross-references: EMBL:U34777; NID:g1002985; PIDN:AAC47015.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                  F;615/Active site: Glu #status predicted
                                                                                                                                                                                                                                                                                                                                                                                     ,958-993/Domain: EGF homology <EGF>
;1118-1153/Domain: EGF homology <EGF1>
;614,618,624,673/Binding site: zinc (H
                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ps: tolkin
ps: references: FlyBase:FBgn0004885
prfamily: astacin homology; EGF homology
prfamily: astacin metalloproteinase; zinc
                                                                                                                                                                                                       838
                                                                                                                                                                                                                                                                                                                                                                                                                                              ords: hydrolase; metalloproteinase; 722/Domain: astacin homology <AST>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177
  185
                                                                                 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                               69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76
                                                                                                                                                                                                                            9 LLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLEL 68 ::|| | ::| | | ::| | | ::|
                                                                                                                                                                                                                                                                                                          Local
                                     K--AGFSAVFMKE-VDECET---QNHGCEHECINTLGGYECSCRIGFELHSDKKHCEDAC
SGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVE--THPETLCP
                                                                             KPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALC
                                                                                                                       HDSCVYDYVEVRDGPGQDAPLIGVFCGYKPPPNMK-----SSGNSMYVKFVSDTSVQ
                                                                                                                                                             SHLCEYDFVKLSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNE 124
                                                                                                                                                                                                     VVCG-----GELSVDDAVGRLESPNYPLDYLPNKECVWKITVPESYQVALKFQSFEVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVNN--TRWIVVGVVSFGH-KCAEEGYPGVYSRVASYLDWIAKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENI 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LARNLMYYDIPIVDHQKCTAAYEK--PPYPRGSVTANMLCAGLESGGKDSCRGDSGGALV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYVEKENY-NDIAIIELKEELNFTDLVNPICLPDPETVTDPLKDRIVTAAGWGDLDFSGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GYTHDAGEDNDIALIKLNNKVVINSNITPICLPRKEAESEMRTDDIGTASGWG-LTQRGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGSIISNKYILSAAHAFLIGGRKLTPTRLAVRVG-----GHYIKRGQEYPVKDVIIHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGALLYDNWVLTAAHA--VYEQKHDASALDIRMGTLKRLSPHYTQAWSE----AVFIHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---ITTVGRSGSPILPPI-STPQNSTGGRGIIAGGVEAKIGAWPWMAAVFVKNFGIGRFH 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CPSVLA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWD----R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RSQVLREVSIPVVPVDKCDQAYEKLNTPSLKNGITNNFLCAGLEEGGKDACQGDSGGPLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GFWTSSKGEKSLPVCEPVCGLSARTTGGR--IYGGQKAKPGDFPWQVLI-----LGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVND-GKYVCEAD 415
                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is a tolloid/BMP-1 homologue that is 34; MUID:96042912; PMID:8536976
                                                                                                                                                                                                                                                                                                        11.3%;
25.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bossie, C.A.; Blackman, R.K.; Padgett,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----AIAPPPVTTTAVTVISTKEPKLPRLHISGCGKRKVKID
                                                                                                                                                                                                                                                                                       84;
                                                                                                                                                                                                                                                                                                        Score 424.5;
Pred. No. 3.7
                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                     (His,
                                                                                                                                                                                                                                                                                                                                                                                     His,
                                                                                                                                                                                                                                                                                                          3.7e-20;
                                                                                                                                                                                                                                                                                                                                                                                     His,
                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      219;
                                                                                                                                                                                                                                                                                                                                                                                     Tyr) #status
                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           essential
                                                                                                                                                                                                                                                                                     119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SWNGRFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PID:g1002986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R.W.
                                                                                                                                                                                                                                                                                                                                                                                     predicted
                                                                                                                                                                                                                                                                                   Gaps
  242
                                                                               184
                                                                                                                       943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75
                                          997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for Drosophila
                                                                                                                                                                                                                                                                                     24;
```

```
A;Reference number: $20380; MUID:92164779; PMID:1537403
A;Accession: $20380
A;Molecule type: protein
A;Residues: 41-55 <GO2>
A;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEBS Lett. 283, 281-285, 1991

A, Fitle: Primary structure of the virus activating protease A, Reference number: S15838; MUID:91257322; PMID:2044767

A, Accession: S15838
                                                                                                                                                                                                                                                              F;90-121/Domain: EGF homology <EG2>
F;129-167/Domain: EGF homology <EG2>
F;186-475/Product: coagulation factor X heavy chain #status predicted <HCH>
F;186-475/Product: coagulation peptide #status predicted <APT>
The last of the status predicted coagulation peptide #status predicted coagulation peptide peptide peptide peptide peptide peptide peptide peptide peptide peptide
F:186-240/Domain: activation peptide #status predicted <APTY F:241-475/Product: coagulation factor Xa heavy chain #status experimental <AHC> F:241-468/Domain: trypsin homology <TRY> F:244-468/Domain: trypsin homology <TRY> F:464-7,54,56,59,60,65,66,69,72,75,79/Modified site: gamma-carboxyglutamic acid (Glu) F:46-62,90-101,12-110,112-110,136-1152,154-167,175-348,247-252,267-283,396-410 F:103/Modified site: expredicted F:103/Modified site: expredicted F:103/Modified site: expredicted F:105/Modified site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology; carboxyglu; Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxyglu F;1-20/Domain: signal sequence #status predicted <SIG> F;21-40/Domain: propeptide #status predicted <PRO> F;25-84/Domain: Gla domain homology <GLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: protein A;Residues: 241-246,'X',248-251,'X',253-261 <GOT>C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;41-185/Product: coagulation factor X light chain \#status experimental F;90-121/Domain: EGF homology <EG1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; \mbox{Description: catalyzes the proteolytic activation of prothrombin to thrombin <math display="inline">A; \mbox{Pathway: blood coagulation}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: DDBJ:D00844; NID:g222869; PIDN:BAA00724.1; PID:g222870 R;Gotoh, B.; Yamauchi, F.; Ogasawara, T.; Nagai, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-475 <SUZ>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Gallus gallus (chicken)
C;Date: 12-Feb-1993 #sequence_revision 07-Feb-1997 #text_change 16-Jul-1999
C;Accession: S15838; S20380; S20381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              coagulation factor Xa (EC 3.4.21.6) precursor - chicken N; Alternate names: virus-activating proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: S20381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1291 GNQDY - - DDGMDCEWTIAAPDNSYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B.; Yamauchi, F.; Og
t. 296, 274-278, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IHEGYTHDAGFDNDIALIKLNNKVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKYVCEADGFWTSSKGEKSLPVCEPVCG----LSARTTGGRIY-----GGQKAKPGDFPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EISAPFGTIFSPNYPDSYPPNADCVWHFITTPGHRIKLIFNEFDVESHQECTYDNVAVYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DRPMPACSIVDCGPPDDLPSGR----VEYITGPGVTTYKAVIQYSCEE----TFYTMKVND 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQ-GHLPLKSFTAVCQKDG--SW 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YDSVTVYSKLGENRLKRIGTFCGSSIPPTATSESNALRLEFHSDKSIQRSGFAAVFFTDI 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GG-VIEYPNGTITSPSFPEMYPLLKECIWEIVAPPKHRISLNFTH-FDLEGTAHQQSDCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEC----AVNNGGCQHECRNTI--GSYICMCHNGYSMHENGH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YDFLKIQTDREEH-----GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---SESSSVLGRFCGDKIPFPISSTSNQMYMVLKTDKNKQKNG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --FTASHST--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -ACGGYLRATSQVQQFYSHARF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amniotic endoprotease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -DC-KEGECKY 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                from chick embryo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gotoh,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B.; Ogasawara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Its
```

```
A;Molecule type: mRNA
A;Residues: 1-1034 <MAT>
A;Residues: 1-1034 <MATA
                                                                                                                                                                                                                                                                                                                                         A53663
enteropetidase (EC 3.4.21.9) precursor -
N,Alternate names: enterokinase
C;Species: Sus scrofa domestica (domestic
C;Date: 07-Oct-1994 #sequence_revision 09-
C;Accession: A53663
C;Accession: A53663
R;Matsushima, M.; Ithinose, M.; Yahagi, N.
                                                                                                                                                                                                                                              J. Biol. Chem. 269, 19976-19982, 1994
A;Title: Structural characterization of porcine enteropeptidase
A;Reference number: A53663; MUID:94327548; PMID:8051081
A;Accession: A53663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F;282,328,425/Active site: His,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90 CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
es 143; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EPVCGLSARTTGGRIYGGQKAKPGDFPWQVLIL---GGTTAAGALLYDNWVLTAAHAVYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFCGKTLPHRIE-----TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GKYGVYTKLSRFLRWVRTVM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGTVSWGSMNCGEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EYVVPACLPQADFANEVLMNQKSGMVSGFGREFEAGRLSKRLKVLEVPYVDRSTCKQS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKE----IKVVVGEVDREKEEHSETTHTAEKIFVHSKYIAET-YDNDIALIKLKEPIQFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QKHDASALDIRMGTLKRLSPHYTQA--WSEAVFIHEGYTHDAGFDNDIALIKLNNKVVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --CHYGGQCKDGLGSYTCSCLDGYQGKNCEFVIPKYCKINNGDCEQFCSIKKSVQKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PTCDH--+CHNHLGGFYCSCRAGY-----VLHR----NKRTCSALCSGQVFTQRSGEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CNEERCSKEEA------REAFEDNEKTEEFWNIYV--DGDQCSSNP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -- CGKVLMKRIKRSVILPTNSNT---NATSDQDVPST-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TNFAITENMFCAGYETEQKDACQGDSGGPHVTRYKDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                            Ichinose, M.; Yahagi, N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ·ILEEVETTTTES---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----RIVGGDECRPGECPWQAVLINEKGEEFCGGTILNEDFILTAAHCINQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11.2%;
23.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Asp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SGYELAEDGKQCVSKVKYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 422; DB 1;
Pred. No. 1.4e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches 169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                    :1c pig)
09-Aug-1996
                                                                                                                                                                                                                                                                                                                                            Kakei,
                                                                                                                                                                                                                                                                                                                                              z
                                                                                                                                                                                                                                                                                                                                                                                          #text_change 18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --YFVTGIVSWGE-GCARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94
trypsin
                                                                                                                                                                                                                                                                                                                                            Kurokawa
                                             light
invol
                                                                                                                    from t
                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                         밁
                                                                 Š
                                                                                                                  Вb
                                                                                                                                                             δÃ
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                           910
                                                                                                                                                                                                                                                                                                                                                                                                                   690
                                                                                                                                                                       494
                                                                                                                                                                                                                     791
                                                                                                                                                                                                                                                                  438
                                                                                                                                                                                                                                                                                                                     734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                197
                      ICLP--EENQVFPPGRICSIAGWGKVIYQGSPADILQEADVPLLSNEKC---
                                                                    ICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184;
```

```
F:199-236/Domain: LDL receptor ligand-binding repeat homology <LDL1>
F:357-519/Domain: MAM homology <AMAN
F:357-519/Domain: Clr/Cls repeat homology <CIR>
F:568-692/Domain: LDL receptor ligand-binding repeat homology <LDL2>
F:693-798/Domain: scavenger receptor cysteine-rich domain homology #status atypica F:693-798/Domain: scavenger receptor cysteine-rich domain homology #status atypica F:600-1034/Product: enteropeptidase light chain #status predicted <LCH>
F:600-1034/Product: enteropeptidase light chain #status predicted <LCH>
F:116,147,170,194,283,343,350,403,455,485,518,549,645,697,701,721,740,761,804,863,F:787-911,825-841,925-992,956-971,982-1010/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Pathway: intestinal digestive hydrolase cascade C;Superfamily: enteropeptidase; Clr/Cls repeat homology; LDL receptor ligand-binding C;Superfamily: enteropeptidase; serine proteinses; transmembrane protein; zymogo C;Keywords: glycoprotein; hydrolase; serine proteinase; transmembrane protein; zymogo F;22-18/Domain: transmembrane #status predicted <TMMP
F;52-117/Product: enteropeptidase mini chain #status predicted <MCHP
F;118-799/Product: enteropeptidase heavy chain #status predicted <MCHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F;840,891,986/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             46 RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA----
                                                                          QVAQEVSPKIVGGNDSREGAWPWVVALYYNGQLLCGASLVSRDWLVSAAHCVYGRNLEPS
                                                                                                                                            --ARTTGGRIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDNWVLTAAHAVYEQKHDAS
                                                                                                                                                                                                                              LGLGT----GNSSMPFFSSGGGPFVKLNTAPNGSLILTASEQCFEDSLILLQCNHKSCGKK
                                                                                                                                                                                                                                                                                                            DGFWTSSKGEKSLPV----
                                                                                                                                                                                                                                                                                                                                                                              ---AHC----VRFLNGTANNSGLVQFRIQSIWHTACAENWTTQTSDD---VCQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CSIVDCGPPDDLPSGRVEYITG----PGVTTYK--AVIQYSCEETFYTMKVNDGKYVCEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DSLLLAVYTGPGPVEDVFSTTNRMTVLFITNDALTKGGFKANFTTGYHLGIPEPCK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TFTSMNFPNNYPNQAFCVWNLNAQKGKNIQLHF-EEFDLENIA-----DVVEIRDGEED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----YPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KVAFNAFKNQFLSDTALDDISLTYGICNVSLYPEPTLVPTSPPELPTDCGGPFELWEPNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPGTIRIES -- NQVTVTFLIE-SDENDYIGFNATYTAFNSTELNNDEKINCNFEDGFCFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -PGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QWITRVNQGLSIELNFSYFN-----
ALDIRMG---TLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PTLEPVCLSFWYYMYGENVYKLSINISNDQNMEKIIFQKEGNYGENWNYGQVTLNETVEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IQDLNDDNEWERIQGTTFPFFTGPNFDHTFGN-ASGFYISTPTGPGGRQERVGLLSLPLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----EDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS----TAQPCPYPMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---YVLHRNKRTCSALCS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11.1%;
21.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EDNFQ--CENGECVLLVNL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 418.5; DB 1;
Pred. No. 6.2e-20;
7; Mismatches 258;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----TYSMDVLNIYEGVGSSKILRASLWLM 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----CDGFSHCKDGSDE----
                                                                                                                                                                                                                                                                                                    ------C-EPVCGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GOVETORSGEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           305;
                                                                                                                                                493
                                                                                                                                                                                                                              790
                                                                                                                                                                                                                                                                                                    437
                                                                                                                                                                                                                                                                                                                                                                                                                                                    414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atypical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   zymoge
```

```
δÃ
                                                                                                                                         В
                                                                                                                                                                            Qy
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F:135-326/Domain: astacin homology <AST>
F;556-592/Domain: EGF homology <EG1>
F;556-705/Domain: CIr/Cls repeat homology <C1R>
F;712-747/Domain: EGF homology <EG2>
F;218,222,228,277/Binding site: zinc (His, His, Tyr) #status
F;219/Active site: Glu #status predicted
    RESULT 18
                                                               밁
                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Title: Embryonic expression of mouse bone morphogenetic A; Reference number: 149540; MUID:94229342; PMID:8174772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Fukagawa, M.; Noboru, S.; Hogan, B.L.M.; Jones, C.M. Dev. Biol. 163, 175-183, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                procollagen
C; Species: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gene: Bmp-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rocollagen C-endopeptidase (EC 3.4.24.19) precursor, tolloid-like splice form Species: Mus musculus (house mouse) pate: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Keywords:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Superfamily: procollagen C-endopeptidase; astacin homology; Clr/Cls repeat homology;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cross-references: GB:L24755; NID:g439606; PIDN:AAA37306.1; PID:g439607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sidues: 1-991 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cession: I49540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tus: preliminary; translated
                                                               963
                                                                                                    394
                                                                                                                                                                                                                                                                302
                                                                                                                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                                                                                                                                   754
                                                                                                                                                                                                                                                                                                                                                                                                                       186
                                                                                                                                                                                                                                                                                                                                                                                                                                                              699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      648 VCKYDFVEVRSGLTADSKLHGKFCGSEK-----PEVITSQYNNMRVEFKSDNTVSK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       670 TKVINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11 CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH
                                                                                                                                                                                                                                                            YPMAPPNGHVSPVQAKYILKDSFS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGFLTKLN-----GSITSPGWPKEYPPNKNCIWQLVAPTQYRISLQFDFFETEGND
                                                               FHSDDTI-
                                                                                                YSCEETFYTMKVNDGKYVCEADGF---WTSSKGEKSL 427
                                                                                                                                                                                                                                                                                                                                       LKIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCP
                                                                                                                                                                                                                                                                                                                                                                              HKV-TSTSGTITSPNWPDKYPSKKECTWAISSTPGHRVKLTFVE-MDIESQPE--CAYDH 809
                                                                                                                                                                                                                                                                                                                                                                                                                   GOVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC-SALCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ARVPKFTEWIQSFL 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVY
                                                                                                                                                                                                                     LEVFDGRDAKAPVLGRFCGSKKPEPVLATGNRMFLRFYSDNSVQRKGFQASHSTECG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                          -KGFKAHFFS-DKDECSKDNG----GCQQDCVNTFGSYECQCRSGFVLHDNKHDCKEAGCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LCEYDFVKLSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YNITENMMCAGYEEGGIDSCQGDSGGPLMCL -- ENNRWLLAGVTSFG-YQCALPNRPGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            metalloproteinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11.1%;
27.6%;
                                                                                                                                                                            -GSWDRPMPACS-IVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 416.5; DE Pred. No. 8e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160;
                                                                                                                                                                                                                                                            --IFCETGYELLQGHLPLKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein-1 (BMP-1) which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                         962
                                                                                                                                                                                                                     913
                                                                                                                                                                                                                                                            343
                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                            753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1019
                                                                                                                                                                                                                                                                                                   866
                                                                                                                                                                                                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               re
                                                                                                                δõ
  Дb
                                                                             B
                                                                                                                                                           Вþ
                                                                                                                                                                                              Q
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                            Ωy
                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Map position:
C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Gene: GDB:BMP1; BMP-1
A;Cross-references: GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Date: 28-Mar-1998 #sequent
C; Accession: A37278; B58788
                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 703-986 <
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Wozney, J.M.; Rosen, V.; Co
Science 242, 1528-1534, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Takahara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A37278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
  862
                                                                             805
                                                                                                                                                           749
                                                                                                                                                                                                                                       694
                                      302
                                                                                                                                                                                                                                                                            127
                                                                                                                                                                                                                                                                                                                     643
                                                                                                                                                                                                                                                                                                                                                                                                 591
                                                                                                                                                                                              186
                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                      11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                 CGGFLTKLN----
                                                                                                                                                                                                                                                                                                                                                                                                                                    CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH
                                                                                                                                                                                                                                                                                                                   VCKYDFVEVRSGLTADSKLHGKFCGSEK-----PEVITSQYNNMRVEFKSDNTVSK-
                                                                                                                                                                                                                                                                                                                                                        LCEYDFVKLSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP 126
                                      YPMAPPNGHVSPVQAKYILKDSFS---
                                                                                                                                                         HKV-TSTSGTITSPNWPDKYPSKKECTWAISSTPGHRVKLTFME-MDIESQPE--CAYDH
                                                                                                                                                                                              GQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDF
                                                                                                                                                                                                                                     -KGFKAHFFS-DKDECSKDNG---GCQQDCVNTFGSYECQCRSGFVLHDNKHDCKEAGCN
                                                                                                                                                                                                                                                                            FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC-SALCS
                                                                             LEVFDGRDAKAPVLGRFCGSKKPEPVLATGSRMFLRFYSDNSVQRKGFQ---ASHATECG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8p21-8p21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
-GQVRADVKTKDLYSHAQFGDNNYPGGVDCEWVIVAEEGYGV----ELVFQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GB:L35279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <TAK>
                                                                                                                  -FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11.0%; Score 414.5; DB 1; 28.2%; Pred. No. 1.1e-19;
                                                                                                                                                                                                                                                                                                                                                                                                 -GSITSPGWPKEYPPNKNCIWQLVAPTQYRISLQFDFFETEGND 642
```

67;

Mismatches

156;

Gaps

22;

70

Length Indels 105; 986;

---IFCETGYELLQGHLPLKS

908 343 861

804

245

301

185

693

```
F;23-986/Product: procollagen C-endopeptidase tolloid-like splice form #status precipilates for form #status form #status precipilates for form #status form #status for form #stat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Biol. Chem. 269, 325/2-325/0, 1254
A;Title: Bone morphogenetic protein I and a mammalian to
A:Reference number: A58788; MUID:95096114; PMID:7798260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Description: catalyzes hydrolysis of the carboxyl-terminal propeptide of collagen c;Superfamily: procollagen C-endopeptidase; astacin homology; Clr/Cls repeat homolog C;Keywords: alternative splicing; beta-hydroxyasparagine; bone; calcium; duplication F;1-22/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-702, 'EKRPALQPPRGRPHQLKFRVQKRNRTPQ'
A; Cross-references: GB: M22488; NID: 9179499; PIDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           procollagen C-endopeptidase (EC 3.4.24.19) precursor, tolloid-like splice fn
N;Alternate names: bone morphogenic protein 1, tolloid-like splice form
C;Species: Homo sapiens (man)
C;Date: 28-Mar-1998 #sequence_revision 09-Apr-1998 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Novel regulators of bone formation: molecular clones and activities A; Reference number: A37278; MUID:89072730; PMID:3201241
F;565,720/Modified site: erythro-beta-hydroxyasparagine (Asn) #status
                                                                          214/Active site: Glu #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Lyons, G.E.; Greenspan,
269, 32572-32578, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDB:125203; OMIM:112264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Celeste, A.J.; Mitsock, L.M.; Whitters, M.J.; Kriz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NID:g619860;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIDN: AAC41710.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RTPQ' <WOZ>
PIDN:AAA51833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tolloid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PID:g619861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PID:g179500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homologue (mTld)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         calcium; duplication;
      predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          •
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 predic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    huma
```

```
S
                                                                             밁
                                                                                                                 δÃ
                                                                                                                                                                    В
                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F;41-452/Product: coagulation factor IX *status predicted <MAT>
F;90-121/Domain: EGF homology <EG1>
F;127-163/Domain: EGF homology <EG2>
F;127-163/Domain: EGF homology <EG2>
F;218-445/Domain: EGF homology <EG2>
F;218-445/Domain: EGF homology <EG2>
F;218-445/Domain: trypsin homology <TRY>
F;46,47,54,56,59,60,65,66,69,72,75,79/Modified site: gamma-carboxyglutamic acid (Glu) *s
F;57-62,90-101,95-110,112-121,127-138,134-148,150-163,171-326,243-259,373-387,398-426/Di
F;258,306,402/Active site: His, Asp, Ser *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M33826; NID:g163949; PIDN:AAA30844.1; PID:g163950 C;Superfamily: coagulation factor X; EGF homology; Gla domain homology; tr:C;Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; F;1-21/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross references: GB:M21757; NID:g972719; PIDN:AAA75006.1; PID:g163948 R;Axelrod, J.H.; Read, M.S.; Brinkhous, K.M.; Verma, I.M. Proc. Natl. Acad. Sci. U.S.A. 87, S173-S17, 1990 A;Title: Phenotypic correction of factor IX deficiency in skin fibroblasts A;Reference number: I46201; MUID:90311364; PMID:2367529 A;Accession: I46201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-452 < AXE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-452 <EVA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;22-40/Domain: propeptide #status predicted <PRO>;24-84/Domain: Gla domain homology <GLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Date: 10-Sep-1999 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Evans, J.P.; Watzke,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Species:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Accession: A30351; I46201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Latus: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ry Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 74, 207-212, 1989
tle: Molecular cloning of a cDNA encoding canine factor erence number: A30351; MUID:89323338; PMID:2752110 ession: A30351
                                                                                                                                                                                                                                                                                                           447
                                                                                                                                                                                                                                                                                                                                                        178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        909
                                                                                                                                                                                                                                                                                                                                                                                                                                                    150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                            ANMLCAGLESGGKDSCRGDSGGALVFLDSETER-WFVGGIVSWGSMNCGEAGQYGVYTKV
                                                                                                                                                                                                                                                                                   GGQKAKPGDFPWQVLILGGTTA---AGALLYDNWVLTAAHAVYEQKHDASALDIRM-----
                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGYQLAEDQR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTT
                                                                        DREYSNIFLKFGSGYVSGWGRVFNKGRSASILQYLKVPLVDRATCLRS-----TKFTTY
                                                                                                                   RKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVT
                                                                                                                                                                                                             --GTLKRLSPHYTQAWSEAV--FIHEGYTHDAG-FDNDIALIKLNNKVVINSNITPICLP
                                                                                                                                                                                                                                                                                                                                                      HISMTRTRAETLESNM------DYENSTEVEKILDNVTQPLNDFT----
                                                                                                                                                                                                                                                                                                                                                                                               YKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLP-VCEPVCGLSARTTGGRIY 446
                                                                                                                                                                                                                                                          GGKDAKPGQFPWQVLLNGKVDAFCGGSIINEKWVVTAAHCIEP-----DVKITIVAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YSCEETFYTMKVNDGKYVCEADGF---WTSSKGEKSL 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEVEEETDCGYDYMELFDGYDSTAPSLGRYCGSGPPEEV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FTAVCQKD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) factor IXa (EC 3.4.21.22) precursor - dog Canis lupus familiaris (dog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                 -EHTEQKRNVIRTILHHSYNATINKYNHDIALLELDEPLTLNSYVTPICIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H.H.; Ware, J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11.0%;
29.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GSWDRPMPACS-IVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GFHLRYTSTKFQDTL 982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 412; DB 1;
Pred. No. 6.3e-20;
7; Mismatches 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-Sep-1999 #text_change 10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stafford,
    -SCEPAVPFPCGRVS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D.W.; High,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YSAGDSV-----LVK
                                                                                                                                                                                                                                                                                                                                                                                                                                               ----VP
                                                                                                                                                                                                                                                                                                                                                      -RVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                   613
                                                                                                                                                                                                                                                          271
                                                                                                                                                                                                                                                                                                                                                    219
                                                                                                                                                                                                                                                                                                                                                                                                                                               177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      957
                                                                                                                                                                 328
                                                                                                                                                                                                                                                                                                        499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        trypsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hemophili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        homology
Š
                                             밁
                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N;Alternate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                270
  101
                                                                                           46
  -PGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA--
```

```
A:Description: cleaves propeptide from trypsinogen to produce active trypsin A:Pathway: intestinal digestive hydrolase cascade A:Pathway: intestinal digestive hydrolase cascade
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Residues: 801-807, 'Y',809-827 <LIG>C:Comment: The mechanism of association with the membrane of the intestinal brush embrane attachment using a signal-anchor sequence.
C:Comment: Conversion from membrane-bound to soluble forms may involve further proc:C:Complex: mature enteropeptidase is variously reported to contain two (heavy and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R:Kitamoto, Y.; Yuan, X.; Wu, Q.; McCourt, D.W.; Sadler, J.E. Proc. Natl. Acad. Sci. U.S.A: 91, 7588-7592, 1994
A;Title: Enterokinase, the initiator of intestinal digestion, is A;Reference number: A43090; MUID:94329561; PMID:8052624
A;Accession: A43090
                                                                                                                                                                                                                                                                                          F;659-693/Domain: LDL receptor ligand-binding repeat homology <LDL2>
F;694-799/Domain: scavenger receptor cysteine-rich domain homology #status atypical <F;801-1035/Product: enteropeptidase light chain #status predicted <LCH>
F;801-1030/Domain: trypsin homology <TRY>
F;116,147,170,194,233,263,264,404,456,486,519,550,646,698,722,741,762,864,903,965/Bin
F;788-912,826-842,926-993,957-972,983-1011/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Superfamily: enteropeptidase; Clr/Cls repeat homology; LDL receptor ligand-binding C;Keywords: glycoprotein; hydrolase; intestine; serine proteinase; transmembrane pro F;22-38/Domain: transmembrane #status predicted <TMM>
F;52-117/Product: enteropeptidase mini chain #status predicted <MCHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: A43090; A48874; A61436
                                                                                                                                                                                                                                                           F;841,892,987/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;199-236/Domain: LDL receptor ligand-binding r. F;358-520/Domain: MAM homology <MAM>
F;542-647/Domain: Clr/Cls repeat homology <Clr>
E;542-647/Domain: Clr/Cls repeat homology <Clr>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F:118-800/Product: enteropeptidase heavy chain #status predicted <HCH>F:199-236/Domain: LDL receptor ligand-binding repeat homology <LDL1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein A; Residues: 801-807, 'Y', 809-827 <LIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Title: The amino-terminal sequence of the A; Reference number: A61436; MUID:92189715; IA; Accession: A61436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Light, A.; Janska, H.
J. Protein Chem. 10, 475-480,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Note: parts of this sequence, R; Light, A.; Janska, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Residues: 801-1035 <LAV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Title: Cloning and functional expression of a cDNA encoding the catalytic subunit o A;Reference number: A48874; MUID:94043122; PMID:8226855 A;Accession: A48874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA
A;Residues: 1-1035 <KIT>
A;Cross-references: GB:U09859; NID:g746410; PIDN:AAB40026.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lfide linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:L19663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;LaVallie, E.R.; Rehemtulla, A.; Racie, L.A.; DiBlasio, E.A.; J. Biol. Chem. 268, 23311-23317, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Experimental source: small intestine R; LaVallie, E.R.; Rehemtulla, A.; Racio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               enteropeptidase (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: nucleic acid sequence not shown; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383
                                                                                                                                                                  Local
                                                              RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SRYVNWIK 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NNMFCAGFHEGGKDSCQGDSGGPHV---TEVEGISFLTGIISWGE-ECAMKGKYGIYTKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            names: enterokinase
                                                                                                                               Similarity 21.7
35; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.4.21.9) precursor -
                                                                                                                                                                  10.9%;
21.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NID:g416131; PIDN:AAA16035.1; Pi including the amino end of the
                                                                                                                                                              Pred. No. 2.9e-19;
                                                                                                                                                                                             Score 408.5;
                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POVING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     e catalytic subunit
PMID:1799406
-TYYADVLNIYEGMGSSKILRASLWSN
                                                                                                                                                                                                 DB 1;
                                                                                                                               Indels
                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PID:g416132
he mature protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PID: 9746411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ōť.
                                                                                                                               301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ferenz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bovine enterokinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a mosaic protease
                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ი
: ;
                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  further proces (heavy and lig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Grant,
                                                                                                                               38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۲.
۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ၀
```

Length

```
tolloid-BMP-1 like protein 1 - California sea hare N;Alternate names: probable metalloprotease TBL-1 C:Species: APlysia californica (California sea hare) C;Pate: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_ch C;Accession: 731069 R;Liu, Q.R.; Hattar, S.; Endo, S.; MacPhee, K.; Zhang, H.; J. Neurosci. 17, 755-764, 1997 J. Neurosci. 17, 755-764, 1997 A;Title: A developmental gene (Tolloid/BMP-1) is regulated A;Reference number: Z20965; MUID:98007484; PMID:8987797 A;Accession: T31069 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Status: preliminary; translated from GB/EMBL/DDBJ
    CAA
                                                                    PP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                Molecule type: mRNA
Residues: 1-1070 <LIU>
      Superfamily:
                          Cross-references: EMBL:U57369; NID:g1899041;
                                                                                                                                                                                                                                                                                                                                                                                                                1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     316
                                                                                                                                                                                                                                                                                                                                                                                                                                                       VINYIPWIENII 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TFTSINFPNSYPNOAFCIWNLNAQKGKNIQLHFQE-FDLENIADVVEIRDGEGDDSLFLA
                                                                                                                                                                                                                                                                                                                                                                                                             VPRFTEWIQSFL 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LP--EENQVFPPGRICSIAGWGALIYQGSTADVLQEADVPLLSNEKC-----QQQMPEYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVLGLHMAS-NLTSPQIETRLIDQIVINPHY-NKRRKNNDIAMMHLEMKVNYTDYIQPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -ALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----RIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDNWVLTAAHAVYEQKHDAS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WTSSKGEKSLPVCE----PVCGLSARTTGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KVSFYGFKNQILSDIALDDISLTYGICNVSVYPEPTLVPTPPPELPTDCGGPHDLWEPNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ITENMVCAGYEAGGVDSCQGDSGGPL--MCQENNRWLLAGVTSFG-YQCALPNRPGVYAR 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPRKEAESFMRTDDIGTASGWG-LTORGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEVSPKIVGGSDSREGAWFWVVALYFDDQQVCGASLVSRDWLVSAAHCVYGRNMEPSKWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GT---GNSSVPTFSTGGGPYVNLNTAPNGSLILTPSQQCLEDSLILLQCNYKSCGKKLVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -AHCVRLFNGTTDS--SGLVQF-----RIQSIWHVACAEN-WTTQISDD--VCQLLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VYTG---PGPV-----NDVFSTTNRMTVLFITDNMLAKQGFKANFTTGYGLGIPEPCK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS----TAQPCPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTPEQACLSFWYYMYGENVYKLSINISSDQNMEKTIFQKEGNYGQNWNYGQVTLNETVEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IQDLNDDNEWERTQGSTFPPSTGPTFDHTFGNE-SGFYISTPTGPGGRRERVGLLTLPLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NPGIIRIFS--NQVTATFLIQ-SDESDYIGFKVTYTAFNSKELNNYEKINCNFEDGFCFW 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRP
    dorsal-ventral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YVLHRNKRTCSALCS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -CQVAPGEAPTCDHHCHNHLGGFYCSCRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --EDNFQ--CKDG-----ECIPLVN---LCDGFPHCKDGSDE--
    patterning protein
PID:g1899042; PIDN:AAC47485.1 in tolloid; astacin homology; Clr/Cls
                                                                                                                                                                                                                                    #text_change 18-Aug-2000
                                                                                                                                                                                          H.; Cleary,
                                                                                                                                                   in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -GQVFTQRSGE-
                                                                                                                                                   Aplysia
                                                                                                                                                                                          L.J.; Byrne,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -FLK
                                                                                                                                                   Neurons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       690
                                                                                                                                                 bу
                                                                                                                                                                                             Ĵ.H.;
                                                                                                                                                     treatme
    repa
                                                                                                                                                                                             Ħ
```

```
A;Molecule type: DNA
A;Residues: 1-461 <YOS>
A;Residues: 1-461 <YOS>
A;Residues: 1-461 <YOS>
A;Residues: 1-461 <YOS>
A;Coss-references: GB:K02402; NID:g182612; PIDN:AAB59620.1;
A;Anson, D.S.; Choo, K.H.; Rees, D.J.G.; Giannelli, F.; Gould
R;Anson, D.S.; Choo, K.H.; Rees, D.J.G.; Giannelli, F.; Gould
R;Anson, D.S.; Choo, K.H.; Rees, D.J.G.; Giannelli, F.; Gould
R;Anson, D.S.; Choo, K.H.; Rees, D.J.G.; Giannelli, F.; Gould
A;Title: The gene structure of human anti-haemophilic factor
A;Reference number: A37570; MUID:84236100; PMID:6329734
A;Accession: A37570
                                                                                                                                                                                                                                                                                     C;Species: Homo sapiens (man)
C;Date: 17-Dec-1982 #sequence_revision 30-Jun-1987 #text_change 15-Sep-2000
C;Date: 17-Dec-1982 #sequence_revision 30-Jun-1987 #text_change 15-Sep-2000
C;Accession: A00922; A37570; A3551; A32989; A22673; A21337; A37546; A30623;
R;Yoshitake, S.; Schach, B.G.; Foster, D.C.; Davie, E.W.; Kurachi, K.
Blochemistry 24, 3736-3750, 1985
A;Title: Nucleotide sequence of the gene for human factor IX (antihemophilic A;Reference number: A00922; MUID:86000558; PMID:2994716
A; Molecule type: DNA
A; Residues: 1-461 <A
A; Cross-references:
                                                                                                                                                                                                                                                                      A; Reference number: A; Accession: A00922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 coagulation factor IXa (EC 3.4.21.22) precursor [validated] - N; Alternate names: antihemophilic factor B; Christmas factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1042 RFRSDDTIKSGGFSATYR 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity nes 156; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-PDDLPSGR---VEYITGPG-----VTTYKAVIQYSCE----ETFYTMKVND---GKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSPSFPDLYPPDKNCVWHISAPKGHTLTVNFTH-MDLEWRGDE-CELDFVRVTNVVGN 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMRTDDIGTASGWGLTQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AFE--IEQQSRCLYDYVAVYDGPT----ENDLVL----GKFCGNQVPSPIVSSTRSLLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YGGQKAKPGDFPWQVLILGGTTAAGALLYDN-----WVLTAAHAVYEQKHDASALDIRMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VCEADGEWTSSKGEKSLPVC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DYPSFYPARRDCEWHFTTAPGHVVRLIFTDEQVEPHRTCRYDHVEAFDGANIQAPQIGKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----GCKHICENTVGSFHCSCREGFILADDE---KS----CKEGGCHYEVTDTKGVIQSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSPVQAKYILKD---SFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KERLQGQYCGFMAPPSITSLSNELRIEFRSDDTLQKTGFSMDYVADVDEC----ASSNG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REE-HGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGH 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQT---D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -LEEVDECE----GEDHGCEHVCVNTLGSYECTCKIGYELHSDGKKCEKACGGYL-DAPSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IRDGDTKDSPLVGTYCG-----TRTPPNA---ISTSRHLYVKFVSDESMQK--GGFSASY 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFY 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGNMPGPE-GFLNSPAYPDEYGSDKVCEWVITVREGYQVALEFATFETEFDPDCAYDYVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                              <ANS>
  GB: K02048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---EKPAPIISSENTLTLTFLSDTSVQRKGFRARHDTVCQSSPTATSA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.8%; Score 406.5; DB 2; 25.2%; Pred. No. 4e-19; tive 89; Mismatches 236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -SHVLYGSKPYDNRQNCSWNIQAP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----EPVCGLSARTTGGRI
                                                                                                                                                                         Gould,
                                                                                                                                                                      PID:g182613
d, K.; Huddl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -VELRFT
                                                                                                                                                                         Huddleston,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33;
                                                                                                                                                                                                                                                                                                                         factor
                                                                                                                                                                                                                                                                                                                                                                                               A60486;
```

```
A;Title: Characterisa
A;Reference number: SA;Reference number: SA;Reference number: SA;Recession: S02527
A;Molecule type: prot
A;Residues: 29-63 <BA
A;Note: processed for R;Jallat, S.; Perraud
                                                                                                                                                                                                                                                                                      A:Molecule type: protein
A:Residues: 47-52,'XX',55-60,'X',62,'XX',55 <THA>
R:Residues: 47-52,'XX',55-60,'X',62,'XX',55 <THA>
R:McMullen, B.A.; Fujikawa, K.; Kisiel, W.
Biochem. Biophys. Res. Commun. 115, 8-14, 1983
A:Title: The occurrence of beta-hydroxyaspartic acid in A:Reference number: A20274; MUID:83308813; PMID:6688526
A:Accession: A20274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clecule type: mRNA idues: 1-12, 'S', 'A'-73, 'P', 75-82, 'K', 84-203, 'P', 205-216, 'G', 218-298, 'A', 299-356, 'A', 88-references: GB:J00136; NID:g182608; PIDN:AAA98726.1; PID:g182609 perimental source: liver R?Tharakan, J.; Strickland, D.; Burgess, W.; Drohan, W.N.; Clark, D.B. vox Sang. 58, 21-29, 1990 A:Title: Development of an immunoaffinity process for factor IX purification. A:Reference number: A60486; MUID:90194857; PMID:2316207 A:Accession: A60486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A:Molecule type: mRNA
A:Residues: 38-193, '7, 195-326 <JAG>
A:Cross-references: GB:M35672
R:Kurachi, K.; Davie, E.W.
Proc. Natl. Acad. Sci. U.S.A. 79, 6461-6464, 1982
A:Title: Isolation and characterization of a cDNA coding A:Reference number: A30623; MUID:83065193; PMID:6959130
A:Accession: A30623
                                                                                                                                                       R:Balland, A.; Faure, T.; Carvallo, D.;
Eur. J. Biochem. 172, 565-572, 1988
A:Title: Characterisation of two difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-193, 'T',195-461 <JAY>
A; Residues: 1-193, 'T',195-461 <JAY>
A: Cross-references: GB: J00137; NID: 9182610; PIDN: AAA52763.1; PID: 9182611
R; Jagadeswaran, P.; Lavelle, D.E.; Kaul, R.; Mohandas, T.; Warren, S.T.
Somat. Cell Mol. Genet. 10, 465-473, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-193,'T',195-461 <MCG>
A;Residues: 1-193,'T',195-461 <MCG>
A;Cross-references: GB:M11309; NID:g180552; PIDN:AAA52023.1; PID:g180553
A;Note: the authors translated the codon ACA for residue 29 as Tyr
A;Note: the Salle, H.; Schamber, F.; Balland, A.; Kohli, V.; Finde
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X55008; NID:g311288; PIDN:CAB38245.2; PID:g4469253 R;Koebberl, D.D.; Bottema, C.D.K.; Buerstedde, J.M.; Sommer, S.S. Am. J. Hum. Genet. 45, 448-457, 1989 Am. J. Hum. Genet. 45, 448-457, 1989 A;Title: Functionally important regions of the factor IX gene have a low ra A;Reference number: A32989; MUID:89371752; PMID:2773937 A;Accession: A32989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Reference number: A30511; MUID:88327116; PMID:3416069 A;Accession: A30511
                                                                                                                                                                                                                             A; Molecule type: protein
A; Residues: 105-109, 'X', 111-115 <MCM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Title: Isolation and characterization of human factor A; Reference number: A37546; MUID:84300526; PMID:6089357 A; Accession: A37546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic Acids Res. 11, 2325-2335, 1983
A; Title: Isolation of a human anti-haemophilic factor IX
A; Reference number: A21337; MUID:83220788; PMID:6687940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: DNA
A; Residues: 8-24 < REI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Reitsma, P.H.; Bertina, R.M.; Blood 72, 1074-1076, 1988
A; Title: The putative factor IX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A: Accession: A21337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Residues: 30-92 <KOE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           McGraw,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Graw, R.A.; Davis, L.M.; Noyes, C.M.; Lundblad, R.L.; Rober, Natl. Acad. Sci. U.S.A. 82, 2847-2851, 1985
Le: Evidence for a prevalent dimorphism in the activation brance number: A22673; MUID:85190593; PMID:3857619
ession: A22673
                           processed forms
                                                                                 protein
                                                                                                                                 sation of two differently processed S02527; MUID:88166735; PMID:3280312
     expressed in F.; Dalemans,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ploos van
recombinant system
W.; Balland, A.; Dieterle,
                                                                                                                                                                                                          Cordier,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Amstel,
                                                                                                                                                                                                          P.; Ulrich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J.K.; Riemens,
                                                                                                                                                          forms
                                                                                                                                                                                                                                                                                                                                         the vitamin K-dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IX cDNA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA clone using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Roberts,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                          of
                                                                                                                                                                                                          P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide of
Α.
                                                                                                                                                                                                          Fournet,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       identification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A.; Briet,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Findeli,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a low rate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H.R.;
Faure,
                                                                                                                                                          recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Graham,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human
                                                                                                                                                                                                          B...
T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unique
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ħ
                                                                                                                                                                                                          de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of polymo
Meulien,
                                                                                                                                                                                                                                                                                                                                         blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tolstos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  coagula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J.B.;
                                                                                                                                                                                                          La
                                                                                                                                                          facto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  52-b
                                                                                                                                                                                                          Sal
                                                                                                                                                                                                                                                                                                                                         ဂ္ဂ
                                                                                                                                                                                                                                                                                 A; Contents: annotation; calcium R; Bentley, A.K.; Rees, D.J.G.; I Cell 45, 343-348, 1986
                                                                                                                                                                                                                                                                                                                                                          R;Morita, T.; Isaacs, B.S.; Esr
J. Biol. Chem. 260, 2583, 1985
A;Reference number: A37544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Di Scipio,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: A; Residues: 290-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 444-461 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Residues: 92-1:
submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Note: 194-Thr was also found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Contents: annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: A37569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Status: translated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: I59612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; Handford, P.A.; Baron,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Residues: 1-68 < JAL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA; protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 processed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92-130 <HANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           290-359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A54255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S12058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 forms expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <RE2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GB/EMBL/DDBJ
Protein Data
```

```
J. Clin. Invest. 61, 1528-1536, 2576
A; Title: Activation of human factor IX (Christmas factor).
A; Title: Activation of human factor IX (Christmas factor).
A; Reference number: A18483; MUID:78194509; PMID:659613
A; Contents: annotation; activation; active site; carbohydrate binding A; Contents: annotation; activation; active site; carbohydrate binding R; McGraw, R.A.; Davis, L.M.; Noyes, C.M.; Graham, J.B.; Roberts, H.R.;
R; McGraw, R.A.; Davis, L.M.; Noyes, C.M.; Graham, J.B.; Roberts, H.R.;
                                A;Contents: annotation; signal sequence cleavage site R;Suehiro, K.; Kawabata, S.I.; Miyata, T.; Takeya, H.; Takamatsu, J. Biol. Chem. 264, 21257-21265, 1989
A;Title: Blood clotting factor IX B(M) Nagoya: substitution of arg A;Reference number: A30622; MUID:90078229; PMID:5992373
A;Contents: annotation; sequence of mutant B(M) Nagoya
A;Note: carboxylation, glycosylation, and cleavage sites
A;Note: carboxylation, D.G.; Harvey, T.S.; Hanford, P.A.; Mayhew, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:M19063; NID:g182622; PIDN:AAA52456.1; PID:g182623 R;Agarwala, K.L.; Kawabata, S.; Takao, T.; Murata, H.; Shimonishi, Y.; N Biochemistry 33, 5167-5171, 1994 A;Title: Activation peptide of human factor IX has oligosaccharides O-gl:A;Reference number: A54255; MUID:94227047; PMID:8172892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: Genomic amplification with transcript sequencing A; Reference number: I59529; MUID:88127096; PMID:3340835 A; Accession: I59529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;de la Salle, C., 370-371, 1993
Thromb. Haemost. 70, 370-371, 1993
A;Title: A deletion located in the 3' non t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   K; Hadivers, 1990
EMBO J. 9, 475-480, 1990
A; Title: The first EGF-like domain from human
**Poference number: S12377; MUID:90151623; PMJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBO J. 9, 3295-3301, 1990
A;Title: Characterization of recombinant human Factor IX
A:Reference number: S12058; MUID:91006024; PMID:2209546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Morita, T.; Isaacs, B.S.; Esmon, C.T.; Johnson, A.E.
J. Biol. Chem. 259, 5698-5704, 1984
A;Title: Derivatives of blood coagulation factor IX contain
A;Reference number: A37543; MUID:84185715; PMID:6425296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
A; Residues: 'D', 204, 'X', 206-211; 212, 'D', 214, 'X', 216-221, 'D'
A; Note: the residues desparted 'X' were determined to be the control of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:S66752; NID:g439773; R;Stoflet, E.S.; Koeberl, D.D.; Sarkar, G.; Science 239, 491-494, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Note: NMR detection of calcium binding by domain expressed in R;de la Salle, C.; Charmantier, J.L.; Baas, M.J.; Schwartz, A.; Thromb. Haemost. 70, 370-371, 1993
                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Defective propeptide processing of blood clotting A; Reference number: A37545; MUID:86189947; PMID:3009023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Contents: annotation; calcium binding R; Morita, T.; Isaacs, B.S.; Esmon, C.T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  oio, R.G.; Kurachi, K.; Davie, E.W. Invest. 61, 1528-1538, 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         essed in recombinant Mayhew, M.; Willis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         m binding, c
Rizza, C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         correction
Brownlee,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              translated part; PMID:8236150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nan factor IX
PMID:2406129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIDN: AAB28588.1; Sommer, S.S.
November
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    system
A.; Beesley,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G.G.
маућеw,
1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           threonine bound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of
                                                                                                                                                                                                                                                                                                                                                                                                                                                factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PID: 9439774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       high
                                         :
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recombinant s
Wiesel, M.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ø
                                                                                                                                                                                                                                                                                                              ت
: .
                                                                                                                                                                                                                                                                                                                                                                                                                                                X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brownlee,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 high-affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in transgenic mice
                                              Tse,
                                                                                                                                                                                                                                                                                                                                                                                                                                                caused
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Stafford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nishimura, H.;
                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X
                                              A.G.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ដ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G.G.;
                                                                                                                                                                                                                      γģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                γd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ca2+-bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           carbohyd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gruneba
                                                                                                                                                                                                                                                                                                                                                                                                                                                mutati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     calc
```

```
A; Reference
A; Contents:
A; Note: rec
C; Comment:
C; Comment:
C; Comment:
C; Genetics:
C;Species: Mus musculus (house mouse)
C;Date: 14-Dec-1990 #sequence_revision 14-Dec-1990 #text_change 03-May-2002
C;Accession: A35827; A42696; S12081
R;Degen, S.J.F; Schaefer, L.A.; Jamison, C.S.; Grant, S.G.; Fitzgibbon, J.DNA Cell Biol. 9, 487-498, 1990
A;Title: Characterization of the cDNA coding for mouse prothrombin and local A;Reference number: A35827; MUID:91025551; PMID:2222810
                                                                                                                                                                                            RESULT
A35827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F;227-461/Product: coagulation factor IXa heavy chain *status experimental <AHC> F;227-454/Domain: trypsin homology <TRY> F;227-454/Domain: trypsin homology <TRY> F;227-454/Domain: carboxyglutamic acid ((F;53,54,61,63,66,67,72,73,76,79,82,86/Modified site: gamma-carboxyglutamic acid ((F;64-69,97-108,102-117,119-128,134-145,141-155,157-170,178-335,252-268,382-396,40; F;64-69,97-108,102-117,119-128,134-145,141-155,157-170,178-335,252-268,382-396,40; F;99/Binding site: carbohydrate (Ser) (covalent) *status experimental F;191/Modified site: expthro-beta-hydroxyaspartic acid (Asp) *status experimental F;191-192/Cleavage site: Arg-Ala (coagulation factor XIa) *status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Description: catalyzes the proteolytic activation of coagulation factor X in A;Pathway: blood coagulation intrinsic pathway
C;Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin C;Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; cart F;1-28/Domain: signal sequence #status predicted (STG)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Map position: A; Introns: 30/1; C; Function:
                                                                                                                                                                      thrombin (EC
                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203,213/Binding site: carbohydrate (Asn) (covalent) #status experimental 205,215/Binding site: carbohydrate (Thr) (covalent) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :29-46/Domain: propeptide #status experimental <PPT>
31-91/Domain: Gla domain homology <GLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;Cross-references: GDB:119900; OMIM:306900; Map position: Xq27.1-Xq27.2; Introns: 30/1; 84/2; 93/1; 131/1; 174/1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Reference number: A51252; PDB:1IXA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    226-227/Cleavage site: Arg-Val (coagulation factor XIa) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contents: annotation; conformation by (1)H-NMR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7-191/Product: coagulation factor IXa light chain #status experimental <ALC>128/Domain: EGF homology <EG1>170/Domain: EGF homology <EG2>2-226/Jomain: activation peptide #status experimental <ACT>
                                                                                                                                                                                                                                                                                            409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             396 CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG-LSARTTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  recombinant
                                                                                                                                                                                                                                                                                         GDSGGPHV---TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK
                                                                                                                                                                                                                                                                                                                                   GDSGGALVFLDSETE-RWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                    GWGRVFHKGRSALVLQYLRVPLVDRATCLRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -YNAAI---NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IVNEKWIYTAAHCVETGVKITVVAGEHNIEETEHTEQKRN------VIRIIPHHN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LLYDNWVLTAAHAV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FPDVDYVNSTEAETILDNITQSTQSFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAEAV
                                                                                                                                                                                                                                                                                                                                                                                                                              GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      combinant form expressed in yeast Pactor IX is activated by factor XIa, which excises the activation peptide The gamma-carboxyglutamic acid residues arise by posttranslational, vitamir Calcium binds to the gamma-carboxyglutamic acid (Gla) residues and, with st
                                                                                                                                                               3.4.21.5) precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------GRIYGGQKAKPGDFPWQVLILGGTTA--AGA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 405; DB 1;
Pred. No. 1.9e-19;
0; Mismatches 9;
                                                                                                                                                                      mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -YEQKHDASALDIRMGTLKRLSPHYTQ 511
                                                                                                                                                                                                                                                                                                                                                                                 -TKFTIYNNMFCAGFHEGGRDSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        residues 92-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 461
                                                                       S.G.; Fitzgibbon, J.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                         455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              102;
                          and localization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268,382-396,407-435,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             571
                                                                                                                                                                                                                                                                                                                                                                                    408
                                                                                                                                                                                                                                                                                                                                                                                                                                630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               trypsin homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       carboxyglutar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vitamin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Glu) #
                             ٥f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stro
                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                          밁
                                                                    δÃ
                                                                                                                   망
                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                          528
                                                                                                                     468
                                                                                                                                                                                                                  410
                                                                                                                                                                                                                                                              486
                                                                                                                                                                                                                                                                                                               350
                                                                                                                                                                                                                                                                                                                                                           442
                                                                                                                                                                                                                                                                                                                                                                                                                                                      398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                                                                                                                                                                                                                                                                                          295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70
```

```
A;Cross references: GB:M81394
C;Superfamily: thrombin; Gla domain homology; kringle homology; trypsin homology
C;Superfamily: thrombin; Gla domain homology; carboxyglutamic acid; glycoprotein; h
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-43/Domain: signal sequence #status predicted <PRO>
F;28-88/Domain: gropeptide #status predicted <PRO>
F;28-88/Domain: Gla domain homology <GLA>
F;409-187/Domain: kringle homology <KRL>
F;109-187/Domain: kringle homology <KRL>
F;215-293/Domain: kringle homology <KRL>
F;361-610/Domain: trypsin homology <KRY
F;361-65,91-104,109-187,130-170,158-182,215-293,236-276,264-288,333-479,388-404,533-54
F;403,459,565/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 89, 2779-2783, 1992
A;Title: Partial characterization of vertebrate prothrombin A;Reference number: A42696; MUID:92212913; PMID:1557383
A;Accession: A42696
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:X52308: NID:g53813; PIDN:CAA36548.1; PID:g53814 A;Experimental source: strain C578L/6 A;Note: the data were obtained from females resulting from the cross of R;Banfield, D.K.; MacGillivray, R.T.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 384-618, 'E' <BAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: preliminary A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
VDHQKCTAAYEKPPYPRGSVTANMLCAGL---ESGGKDSCRGDSGGALVFLDSETERWFV
                                                                                                                                                                                       WDKNFTENDLLVRIG--KHSRTRYERNVEKISMLEKIYVHPRYNWRENLDRDIALLKLKK
                                                                                                                                                                                                                                                   YEQKHDASALDIRMGTLKRLSPHYTQ-----AWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KVVINSNITPICLPRKE-AESFMRTDDIGTASGWGLTQRGFLAR--
                                                                                                                                                                                                                                                                                                                    KELLDSYIDGRIVEGWDAEKGIAPWQVMLFRKSPQELLCGASLISDRWVLTAAHCILYPP
                                                                                                                                                                                                                                                                                                                                                                                                                                              EA-----VGEENYDVDESIAGRTTDAEFHTFFNEKTFGLGEADCGLRPLFEKKSLKDTTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ETFYTMKVNDGKYVCE-----ADGFWTSSKGEKSLPVCEPVCGL-----SARTT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NPDSSTTGPWCYTTDPTVRREECSVPVCG-----QEGRTTVVMTPRSGGSKDN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ETHPETLCPYDFLKIQTDREEH--GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KRTCSALCSGQVFTQRSG---ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EAFEALESPODTDVFWAKYTVCDSVRKPRETFMDCLEGRCAMDLGVNYL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NSLPAKTLSKYQDFD---PEVKLVENFCRNPDWDEEGAWCYVAGQPGDFEY-CNLNY-CE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----QKDGSWDRPMPACSIVD--CGPPDDLPSGRVEYITG-PGVTTYKAVIQYSCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------LSPPLG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-618 <DEG>
                                                                                                                                                                                                                                                                                                                                                                            ---GGRIYGGQKAKPGDFPWQVLILGGT----TAAGALLYDNWVLTAAHAV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTVNVTHTGIQCQLWRSRYPHK-PEINSTTHPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 405;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -QCLTERG-RLYQGNLAVTTLGSPCLPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.7e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                            ---NLMYVDIPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNAs: amplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -DLKENFCR 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of.
                                                                                                                            592
                                                              527
                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domesticus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29;
```

-TRIRITDNMFCAGFKVNDTKRGDACEGDSGGPFVMKSPFNNRWYQ

```
A;Molecule type: protein
A;Molecule type: protein
A;Residues: 85-124 <KUR>
A;Residues: 85-124 <KUR>
C;Comment: The mature haptoglobin molecule is a dimer of heterodimers, the two chains of C;Comment: Haptoglobin is a plasma glycoprotein; haptoglobin forms a complex with hemogl C;Superfamily: haptoglobin; complement factor H repeat homology; trypsin homology
C;Keywords: acute phase; glycoprotein; hemoglobin binding; heterotetramer; iron transpor F;1-83/Product: haptoglobin alpha chain #status experimental <ALP>
F;1-83/Product: haptoglobin alpha chain #status experimental <ALP>
F;85-329/Product: haptoglobin beta chain #status experimental <BET>
F;85-329/Product: carbohydrate (Asn) (covalent) #status experimental
F;9.107.214/Blnding site: carbohydrate (Asn) (covalent) #status experimental
           RESULT
EXHU
                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Kurosky, A.; Kim, H.H.; Touchstone, B.
Comp. Biochem. Physiol. B 55, 453-459, 1976
A;Title: Comparative sequence analysis of the N-terminal region of rat, rabbit, and A;Reference number: A90931; MUID:77025019; PMID:975782
A;Accession: B26503
                                                                                                                                                                        5
                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 haptoglobin precursor - dog (fragments) C;Species: Canis lupus familiaris (dog) C;Date: 09-Oct-1992 *sequence_revision C;Accession: JX0223; JX0224; B26503 R;Kumazaki, T.; Urushibara, N.; Ishii, J. Biochem. 112, 11-19, 1992
                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              perimental source: plasma
e: Arg-84 was found at the
ession: JX0224
Lecule type: protein
A:Residues: 85-329 <KU3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A: Molecule type: protein A: Residues: 1-83 < KU2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: Amino acid sequence and disulfide-bridge location Reference number: JX0223; MUID:93054403; PMID:1429498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: JX0223
                                                                                                                                                                                                                                                                                                                                                                                                            544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   582
                                                                                                                            298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                485 VY-EQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVV 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ECEAVCGKPKNPVDQVQRIMGGSVDAKGSFPMQAKMVSHHNLTSGATLINEQWLLTTAKN 126
                                                                                                                      LSF-DKSCTVA-EYGVYVKVPSVLAWVQETIA 327
                                                                                                                                                                           VSWGSMNCGEAGQYGYYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                   INSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYE 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPVIENGYVEH-----MIRYQCKPFYKLHTEGDGVYTLNSEKHWTNKAVGEKLP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLP 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VCEPVCGLSARTTG--GRIYGGQKAKPGDFPWQVLILG--GTTAAGALLYDNWVLTAAHA 484
                                                                                                                                                                                                                                GSTVPEKKSPKSPVGVQPILNEHTFCAGMSKFQEDTCYGDAGSAFAVHDQDEDTWYAAGI
                                                                                                                                                                                                                                                                                     -----KPPYPRG---SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGI 652
                                                                                                                                                                                                                                                                                                                                              IDERVMPICLPSKD---YAEVGRIGYVSGWGRNSNFNFTELLKYVMLPVADQDKCVQHYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                              LFLGHKDDAKANDI-APTLKLYVGKNQLVEVEKVVLHPDYS-----KVDIGLIKLKQKVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source: plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N.; Ishii, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 403; DB 1; Length 329
Pred. No. 1.7e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       some alpha chains; we have inserted it by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-May-1996 #text_change 11-May-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             haptoglobin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dog
                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: A20362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: A24478
and characterization of the 5'
```

```
R;Inoue, K.; Morita, T.

Eur. J. Biochem. 218, 153-163, 1993
A;Title: Identification of O-linked oligosaccharide chains
A;Reference number: S39414; MUID:94062825; PMID:8243461
A;Accession: S39415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Homo sapiens (man)
C;Date: 15-Nov-1984 #sequence_revision 02-May-1994 #text_change 08-Dec-2000
C;Accession: A24478; J09917; A42485; A25883; A22208; A21284; A20362; S39415;
R;Leytus, S.P.; Foster, D.C.; Kurachi, K.; Davie, E.W.
Blochemistry 25, 5098-5102, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 13-441, 'S', '443-488 <FUN>
A; Residues: 13-441, 'S', '443-488 <FUN>
A; Cross-references: GB: K03194; NID: g182840; PIDN: AAA52490.1;
A; Leytus, S.P.; Chung, D.W.; Kisiel, W.; Kurachi, K.; Davie, Proc. Natl. Acad. Sci. U.S.A. 81, 3699-3702, 1984
A; Title: Characterization of a cDNA coding for human factor )
A; Reference number: A21284; MUID: 84222026; PMID: 6587384
A; Accession: A21284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 19-284, 'E', 289-488 <KAU>
A;Residues: 19-284, 'E', 289-488 <KAU>
A;Cross-references: GB.M22613; NID:g180335; PIDN:AAA51984.1;
R;Fung, M.R.; Hay, C.W.; MacGillivray, R.T.A.
Proc. Natl. Acad. Sci. U.S.A. 82, 3591-3595, 1985
A;Title: Characterization of an almost full-length cDNA codin A;Reference number: A22208; MUID:85216545; PMID:2582420
A;Accession: A22208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Kaul, R.K.; Hildebrand, B.; Roberts, S.; Jagadeswaran, P. Gene 41, 311-314, 1986
A;Title: Isolation and characterization of human blood-coagulation A;Reference number: A25853; MUID:86221713; PMID:3011603
A;Accession: A25853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB.M57285; NID:g182389; PIDN:AAA52421.1; R;Miao, C.H.; Leytus, S.P.; Chung, D.W.; Davie, E.W. J. Biol. Chem. 267, 7395-7401, 1992
A;Title: Liver-specific expression of the gene coding for hum A;Reference number: A42485; MUID:92218390; PMID:1313796
A;Accession: A42485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene 99, 291-294, 1991
A;Title: Cloning and expression in COS-1 cells of a full-length cDNA encoding
A;Reference number: JQ0917; MUID:91216473; PMID:1902434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 13-284, 'E', 289-488 <LE2>
A;Cross-references: GB:K01886
R;McMullen, B.A.; Fujikawa, K.; Kisiel, W.; Sasagawa, T.; Howald, W.N.; Kwa, E.Y.; We Biochemistry 22, 2875-2884, 1983
A;Title: Complete amino acid sequence of the light chain of human blood coagulation f A;Reference number: A20362; MUID:83257207; PMID:6871167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: Gene for human Factor X: a blood coagulation factor A; Reference number: A24478; MUID:87026600; PMID:3768336
A;Note: glycosylation sites A;Note: identification and characterization of beta-hydroxyaspartic R;Jagadeeswaran, P.; Reddy, S.V.; Rao, K.J.; Hamsabhushanam, K.; Lym Gene 84, 517-519, 1989
                                                                                                                                        A; Molecule type: protein A; Residues: 183-234 <INO>
                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: protein A; Residues: 41-179 < MCM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Note: sequence extracted from NCBI backbone (NCBIN:93780, R;Kaul, R.K.; Hildebrand, B.; Roberts, S.; Jagadeeswaran, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Experimental source: liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-15 <MIA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-488 <MES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Reference number: JQ0917; A; Accession: JQ0917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:L29433; GB:M14327; NID:g459809; PIDN:AAA52764.1; PID:g182831 R;Messier, T.L.; Pittman, D.D.; Long, G.L.; Kaufman, R.J.; Church, W.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N; Alternate names: Stuart factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coagulation factor Xa (EC 3.4.21.6) precursor [validated] - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Residues: 1-488 <LEY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          factor X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human factor
                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBIP: 93787)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PID:9182841
E.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PID:g180336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PID: g182390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  whose
                                                                                                                                                                                                                                                                                the activation peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for human blood coagul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene organization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Х
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 coa
```

end

(exon 1)

of the gene encoding hum

```
F:41-179/Product: coagulation factor X light chain #status experimental <LCH>
F:00-121/Domain: EGF homology <EG1>
F:129-164/Domain: EGF homology <EG2>
F:183-488/Product: coagulation factor X heavy chain #status experimental <HCH>
F:183-234/Domain: activation peptide #status experimental <APT>
F:35-488/Product: coagulation factor X heavy chain #status experimental <ACT>
F:235-488/Product: coagulation factor Xa heavy chain #status experimental <ACT>
F:235-488/Product: coagulation factor Xa heavy chain #status experimental <ACT>
F:235-482/Domain: trypsin homology <TRY>
F:235-462/Domain: trypsin homology <TRY>
F:464/T,54,56,59,60,65,66,69,72,79/Modified site: gamma-carboxyglutamic acid (Glu) #status F:464/T,54:56,59,60,65,66,69,72,79/Modified site: gamma-carboxyglutamic acid (Glu) #status F:464/T,54:56,59,60,65,66,69,72,79/Modified site: gamma-carboxyglutamic acid (Glu) #status experimental F:103/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status experimental F:109,711/Product #status experimental #status 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:M33297; NID:g183860; PIDN:AAA52636.1; PID:g553330 R;Padmanabhan, K.; Padmanabhan, K.P.; Tulinsky, A.; Park, C.H.; Bode, W.; Huber, R.; Bl J. Mol. Biol. 232, 947-966, 1993 A;Title: Structure of human des(1-45) factor Xa at 2.2 angstroms resolution. A;Reference number: A4945B; MUID:93360277; PMID:8355279 A;Contents: annotation; X-ray crystallography, 2.2 angstroms C;Comment: The two chains held together by one disulfide bond are formed from a single-C;Comment: The activation peptide is cleaved by factor IXa (in the intrinsic pathway) o
                                                    Qy
                                                                                                                                                            밁
                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F:199,211/Binding site: carbohydrate (Arn) (covalent) #status experimental
F:221,231/Binding site: carbohydrate (Arn) (covalent) #status experimental
F:231,231/Binding site: carbohydrate (Arn) (covalent) #status experimental
F:234-235/Cleavage site: Arg-Ile (coagulation factor IXa, coagulation factor VIIa) #sta
F:276,322,419/Active site: His, Asp, Ser #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-rerection: 13q34-13q34
A;Map position: 13q34-13q34
A;Introns: 24/1; 77/3; 86/1; 124/1; 150/3; 249/3; 289/1
A;Introns: 24/1; 77/3; 86/1; 124/1; 150/3; 249/3; 289/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: I54051; MUID:90128299; PMID:2612918
A;Accession: I54051
A;Status: translation not shown; translated from GB/EMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: GDB:F10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Residues: 1-23 < RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peription: catalyzes the proteolytic activation of prothrombin to thrombin in the puthway: blood coagulation factor X; EGF homology; Gla domain homology; trypsin homology; Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxyglutar: 1-23/Domain: signal sequence #status predicted <SIG>24-40/Domain: signal sequence #status predicted <PRO>24-40/Domain: glad domain homology <GLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Molecule type:
446 YGGQKAKPGDFPWQVLILGGTT---AAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTL
                                                                                                                                                                 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     322,419/Active site: His, Asp, Ser #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             266 RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        208 LSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPF-CGK-TLPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95 -- CQNQGKCKDGLGEYTCTCLEGF -- -- EGKNC -- -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 23.6 les 142; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                           IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                                                                                                                                          TTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CMEETCSYEEA--REVEED----SDKTNE----FWNKY--KDGDQCETSP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R---KRSVAQATSSSGEAPDSITWK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTCDHH---CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10.7%; Score 403; DB 1; I 23.6%; Pred. No. 2.7e-19; tive 81; Mismatches 173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----PYDAA----DLDPTENPFDLLD---
                                                                                                                                                       RGDNNLT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---ELFTRKLCSLDN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 488;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94
                                                                                                                                                                                                                                                                                                                                                        226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OH,
```

```
Ъ
                          20
                                                      Вþ
                                                                              Qy
                                                                                                            Вр
                                                                                                                                      Qy
                                                                                                                                                                   밁
                                                                                                                                                                                             QУ
                                                                                                                                                                                                                           В
462
                           679
                                                       405
                                                                                 619
                                                                                                               351
                                                                                                                                         560
                                                                                                                                                                                                                           236
IJ
                          H
                                                      AGYDTKQEDACQGDSGGPHVTRFKDT--YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW
                                                                      AGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW
                                                                                                             STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLS-----SSFIITQNMFC
                                                                                                                               SFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLC
                                                                                                                                                                  NTEQEEGGEAVHEVEVVIKHNRFTKET-YDFDIAVLRLKTPITFRMNVAPACLPERDWAE
                                                                                                                                                                                KRLSPHYTQAWS-~EAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKE-AE
                                                                                                                                                                                                                           VGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKR----FKVRVGDR
463
                                                       461
                                                                                   678
                                                                                                               404
                                                                                                                                       618
                                                                                                                                                                   350
```

Search completed: January 23, 2003, 22:21:35 Job time : 61 secs

GenCore version 5.1.3 Copyright (c) 1993 - 2003 Compugen Ltd

Human cancer associ Lung cancer associ cancer associ

Amino acid sequenc Human secreted pro Human FCTR5b polyp Human FCTR5a polyp Tumour antigen der Human membrane-typ Human TADG-15. Ho Human matriptase (Human matriptase, Human matriptase, Human matriptase.

Recombinant N-term
Horseshoe crab rec
Singapore horsesho
Horseshoe crab Fac
Horseshoe crab Fac
Horseshoe crab rec
Horseshoe crab rec

Horseshoe crab re Horseshoe crab re Epithin protein.

Amino acid sequenc Novel human diagno MASP-like serine p Novel human protei

Human membrane-typ
Human membrane-typ
Human protein sequ
Singapore horsesho
Horseshoe crab Fac
Horseshoe crab Fac

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                  Score
     3758
3745
3673
1617
1600
1508
1508
1414
1414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2
3758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     January 23, 2003, 22:02:16; Search time 82 Seconds (without alignments) 1114.755 Million cell updates/sec
     100
99
97
43
42
42
42
40
37
37
                                                                                                                                                                                                                                                                                    Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A_Geneseq_101002:*

| SIDS2/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*
| SIDS2/gcgdata/geneseq/geneseq-embl/AA1984.DAT:*
| SIDS2/gcgdata/geneseq/geneseq-embl/AA1984.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           908470 segs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA198.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA199.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA2001.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA2001.DAT: *
/SIDSZ/gcgdata/geneseq/geneseqp-embl/AA2001.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MRLLTLLGLLCGSVATPLGP.......GVYTKVINYIPWIENIISDF 686
                                                                                                                                                                                                                                                                                  Length DB
                                                                          686
686
671
1034
728
728
                                                                                                                                                                                                                                                                                  ID
AAE14568
AAE14568
AAE14565
ABG21134
AAB47559
AAB85060
AAB85075
AAG8075
AAG80756
                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                               Description
                                                                                                                     Human MASP-2 prote
Human MASP-2 prote
Human mature MASP-
Novel human diagno
Protease PRTS-1
                                             Human serine prote
Amino acid sequenc
Human Clr protein.
                       Complement
Murine Clr proteir
```

777777666666666666555555555544444444444	
100.00.00.00.00.00.00.00.00.00.00.00.00.	
1083 1083 1083 1083 1083 1083 1083 10380 10380 10380 10380 10380 1049 1049 1049 1049 1049 1049 1049 104	a 4 vo a a a v v v a a v v v v d d d d d a a a
166651231111018322222222222222222222222222222	
AAW49 301 AAY4 24 89 AAB60934 AAB60933 AAB85076 ABG21442 AAB85076 ABG21442 AAB85077 AAB84203 AAB85077 AAW4107110 AAB64266 AAB64266 AAB64266 AAB64266 AAB64266 AAB656933 AAB656934 AAB656934 AAB65892 AAU65934 AAB65892 AAU65934 AAB65892 AAU65933 AAB69927 AAU65933 AAB69927 AAU65933 AAB69927 AAU65933 AAB69927 AAU65933 AAB69367 AAB65891 AAB65893	EXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Amino acid sequenc Murine epithin. M Murine type II mem Murine epithilin-li Human PRO618 prote Human PRO618 prote Amino acid sequenc Human membrane-typ Human membrane-typ Human mercokinase Murine TANGO 215 p Mouse serine prote Amino acid sequenc Drosophila melanog Drosophila melanog Amino acid sequenc Human serine prote Human serine prote Human serine prote

ALIGNMENTS

Part of the sequen Sequence of human Sequence of human Mutant human facto

Truncated precurso Human Factor IX pr Human LP polypepti Human Factor-IX.

C-proteinase encod Amino acid sequenc Bovine enterokinas Recombinant human

RESULT 1 AAE14564 ID AAE1 AAE14564 standard; Protein; 686 AA.

```
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; mannan-binding lectin associated serine protease-2; MASP-2; MBL; complement fixation; infection; microbe; retrovirus; HIV; abortion; human immunodeficiency virus; pathogenic bacteria; inflammatory disorde
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE14564;
                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                       (JENS/)
                                               13-JUL-2000; 2000DK-0001089
01-JUN-2001; 2001DK-0000870
                                                                                                           WO200206460-A2
                                                                                                                            Active-site
Active-site
                                                                                                                                                                                                                                                                         Domain
       Jensenius
                                                                         13-JUL-2001; 2001WO-DK00499
                                                                                                                                                             Domain
                                                                                                                                                                                                                              Region
                                                                                                                                                                                                                                              Domain
                                                                                                                                           Active-site
                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                           )omain
                                                                                                                                                                                                      ≀egion
                       JENSENIUS
THIEL S.
       JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
       Thiel
                                                                                                                            /label=
483
532
633
                                                                                                                                                                                                                                                                                                                          /note=
155
                                                                                                                                                                                                             /note= "Fragment obtained
of peptides"
                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label=
16..686
                                                                                                                                                                                                                                                                        /label= Clr/Cls-like_domain 293..307
                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
16..31
                                                                                                                                                            445..468
                                                                                                                                                                                                                                                                                                                                                                  of peptides
                                                                                                                                                                                                                                                                                                                                                                                         The region
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= Mature_MASP-2_protein
16..56
                                                                                                                                                                                                                                                363..376
                                                                                                                                                                                                                                                                                                                                           138..296
                                                                                                                                                                                                                                                                                                                                                                                           /note= "This region is specifically claimed in claim The region 30 to 296 is specifically claimed in claim
                                                                                                                                                                    /note-
                                                                                                                                                                                                                              377..388
                                                                                                                                                                                                                                                                /label= CCP-1_domain
                                                                                                                                                                                                                                                                                                /note= "Encoded
                                                                                                                                                                                                                                                                                                                 'note= "Encoded
                                                                                                                                                                                                                                                                                                                                                  /label= EGF-like_domain
                                                                                                                                                                                                                                                                                                                                                                           /note= "Fragment obtained
                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= Clr/Cls-like_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                              /note= "Fragment obtained
                                                                                                                                                                                                                                      /label=
                                                                                                                                                                                                                                                       note= "Complement control protein domain"
                                                                                                                                                                                     peptides"
                                                                                                                                                                                                                                                                                                                                                                                                            . 444
       S
                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                    "This
                                                                                                                                                                                                                                                                                                                                                                                                                                                     "MASP-2 20 kDa fragment"
                                                                                                                                                                     "Linker'
                                                                                                                                                                                                                                                                                                                                 "This region is
                                                                                                                                                                                                                                       CCP-2_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Signal_peptide
                                                                                                                                                    Serine_protease_domain
                                                                                                                                                                                                                                                                                                bу с"
                                                                                                                                                                                                                                                                                                                 bу
                                                                                                                                                                                                                                                                                                                  CA.
                                                                                                                                                                                                                                                                                                                                                                                                                    is
                                                                                                                                                                                                                                                                                                                                  specifically claimed
                                                                                                                                                                                                                                                                                                                                                                                                                    specifically claimed in
                                                                                                                                                                                              γď
                                                                                                                                                                                                                      bУ
                                                                                                                                                                                                                                                                                                                                                                           Уď
                                                                                                                                                                                              amino acid
                                                                                                                                                                                                                                                                                                                                                                            amino acid sequencing
                                                                                                                                                                                                                      amino acid
                                                                                                                                                                                              sequencing
                                                                                                                                                                                                                      sequencing
                                                                                                                                                                                                                                                                                                                                   in
                                                                                                                                                                                                                                                                                                                                   claim
                                                                                                                                                                                                                                                                                                                                                                                                                    claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          disorder
                                                                                                                                                                                                                                                                                                                                                                                            claim
                                                                                                                                                                                                                                                                                                                                                                                          η 41.
, 47"
                                                                                                                                                                                                                                                                                                                                    43
                                                                                                                                                                                                                                                                                                                                                                                                                    46
```

```
Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                             Qγ
                                                                                                                               Ъ
                                                                                                                                                          QΥ
                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                            dd
                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bacteria which are resistant to at least one antibiotic medicament or multiresistant. The polynucleotide encoding MASP-2 is useful for treating patients deficient in MASP-2. The invention also discloses MASP-2 assays which are useful for determination of MASP-2 activity or levels in patients suffering from e.g. infections, inflammatory disorders and spontaneous recurrent abortion. The pharmaceutical composition comprising MASP-2 inhibitor is useful for treating inflammatory disorders. The present sequence is human MASP-2 protein. Note: The present sequence is stated as being the same as SEQ ID NO:2 shown in sequence listing of the specification (AAE14568). However the sequences differ at various locations.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 200
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to use of a polypeptide derived from mannan-binding lectin (MBL) associated serine protease-2 (MASP-2) for producing a pharmaceutical composition. MASP-2 is a complement-fixing enzyme and involved in lectin pathway of complement activation. The pharmaceutical composition comprising MASP-2 is useful for treating infections caused by microbes such as fungus, yeast, retrovirus (e.g. human immunodeficiency virus (HIV)), or pathogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Use of a polypeptide comprising amino acid sequence derived from mannan-binding lectin associated serine protease-2 (MASP-2) for producing pharmaceutical composition, to treat bacterial, fungal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 41; Fig
481
                               481
                                                               421
                                                                                               421
                                                                                                                               361
                                                                                                                                                               361
                                                                                                                                                                                              301
                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \vdash
                                                                                                                                                                                                                                                         MRLITLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-179791/23
DB; AAD24224.
                                                                                                                                              CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                                                                                                                                                                             PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                         YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD 120
 AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                 SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT
                                                                                SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT
                                                                                                                               CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                                                                                                                                                                                                                                                                                                                                                                          YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   686 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 3758; DB 23;
Pred. No. 1.5e-215;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                  480
                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                   540
                                                                 480
                                                                                                                                  420
                                                                                                                                                                                              360
                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                            240
   540
```

0

KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA

```
RESULT 2
AAE14568
ID AAE1
   PXCX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
         The invention relates to use of a polypeptide derived from mannan-binding lectin (MBL) associated serine protease-2 (MASP-2) for producing a pharmaceutical composition. MASP-2 is a complement-fixing enzyme and involved in lectin pathway of complement activation. The pharmaceutical composition comprising MASP-2 is useful for treating infections caused by microbes such as fungus, yeast, retrovirus (e.g. human immunodeficiency virus (HIV)), or pathogenic bacteria.
                                                                                                    Claim 41;
                                                                                                                              Use of a polypeptide comprising amino acid sequence derived from mannan-binding lectin associated serine protease-2 (MASP-2) for producing pharmaceutical composition, to treat bacterial, fungal,
 retrovirus (e.,
                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                       13-JUL-2001; 2001WO-DK00499
                                                                                                                                                                                                                                                                                                                                                   WO200206460-A2
                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-MAY-2002
                                                                                                                                                                                                                 Jensenius JC,
                                                                                                                                                                                                                                                                    3-JUL-2000; 2000DK-0001089;
01-JUN-2001; 2001DK-0000870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; mannan-binding lectin associated serine protease-2; MASP-2; MBL; complement fixation; infection; microbe; retrovirus; HIV; abortion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAE14568 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  uman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                          2002-179791/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunodeficiency virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MASP-2
                                                                                                                                                                                AAD24224
                                                                                                                                                                                                                                      JENSENIUS J
                                                                                                    Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein, alternative version.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                  71-73;
                                                                                                                                                                                                                Thiel
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label-
16..686
/label-
155
                                                                                                                                                                                                                                                                                                                                                                                   /note=
299
                                                                                                                                                                                                                                                                                                                                                                                                      /note= "Encoded 298
                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "Encoded
156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
1..15
                                                                                                                                                                                                                                                 G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
                                                                                                 76pp; English
                                                                                                                                                                                                                                                                                                                                                                       "Encoded
                                                                                                                                                                                                                                                                                                                                                                                             "Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mature_MASP-2_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Signal_peptide
  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pathogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                      bу
                                                                                                                                                                                                                                                                                                                                                                       bу
                                                                                                                                                                                                                                                                                                                                                                                            bу
                                                                                                                                                                                                                                                                                                                                                                                                                  уд
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             686
                                                                                                                                                                                                                                                                                                                                                                        CCT"
                                                                                                                                                                                                                                                                                                                                                                                                                                        CA"
                                                                                                                                                                                                                                                                                                                                                                                              CAG
 least one
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bacteria; inflammatory disorder
s (HIV)), or pathogenic antibiotic medicament
                                                                                                                                   viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
 õ
```

RESULT 3 AAE14565

AAE14565 standard;

peptide;

Ą

DXXXI

AAE14565; 17-MAY-2002

(first entry)

```
οy
                                                       망
                                                                                  Š
                                                                                                                                         δÃ
                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      888888888888888
                                                                                                                В
                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             multiresistant. The polynucleotide encoding MASP-2 is useful for treating patients deficient in MASP-2. The invention also discloses MASP-2 assays which are useful for determination of MASP-2 activity or levels in patients suffering from e.g. infections, inflammatory disorders and spontaneous recurrent abortion. The pharmaceutical composition comprising MASP-2 inhibitor is useful for treating inflammatory disorders. The present sequence is human MASP-2 protein. Note: The present sequence is stated as being the same as SEQ ID NO:2 shown in figure 6 of the specification (AAE14564).
                                                                                                                                                                        481
                          661
                                                       601
                                                                                     601
 661
                                                                                                                 541
                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>...</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
              GEAGQYGVYTKVINYIPWIENIISDF 686
                                                                                                                                                                                                                                                                                      MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY 60
                                                                      AYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                      AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                           CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPC
GEAGQYGVYTKVINYIPWIENIISDF
                                                       AYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                                                        AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                                             PYPMAPPNGHYSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                          PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                                                                      CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAHAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             684;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 99.7
84; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.7%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 3745; DB 23;
Pred. No. 8.9e-215;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                       999
                                                                                   660
                                                                                                                600
                                                                                                                                           600
                                                                                                                                                                       540
                                                                                                                                                                                                  540
                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
```

Human

mature MASP-2 protein mannan-binding

fixation;

infection; microbe;

lectin associated serine protease-2; MASP-2; MBL;

retrovirus; HIV;

abortion

```
Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     treating infections caused by microbes such as fungus, yeast, retrovirus (e.g. human immunodeficiency virus (HIV)), or pathogenic bacteria which are resistant to at least one antibiotic medicament or multiresistant. The polynucleotide encoding MASP-2 is useful for treating patients deficient in MASP-2. The invention also discloses MASP-2 assays which are useful for determination of MASP-2 activity or evels in patients suffering from e.g. infections, inflammatory disorders and spontaneous recurrent abortion. The pharmaceutical composition comprising MASP-2 inhibitor is useful for treating inflammatory disorders. The present sequence is human mature MASP-2 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to use of a polypeptide derived from mannan-binding lectin (MBL) associated serine protease-2 (MASP-2) for producing a pharmaceutical composition. MASP-2 is a complement-fixing enzyme and involved in lectin pathway of complement activation the pharmaceutical composition comprising MASP-2 is useful for the pharmaceutical composition comprising MASP-2 is useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of a polypeptide comprising amino acid sequence derived mannan-binding lectin associated serine protease-2 (MASP-2) producing pharmaceutical composition, to treat bacterial, further treatments of the composition of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Key
Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 45; Page 73-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-JUL-2001; 2001WO-DK00499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jensenius JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (JENS/) JENSENIUS J C. (THIE/) THIEL S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200206460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human
                                                          196
                                                                                                                                                      121
                                                                                                                                                                                                                                             136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3-JUL-2000; 2000DK-0001089.
1-JUN-2001; 2001DK-0000870.
                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 щ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYD
                                                                                                                                                                                                                                                                                                                                                                                FVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYA 135
                                                     LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEH
                                                                                                                                            AEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGE 195
                                                                                                                                                                                                                                                                                                                                    FVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002-179791/23
immunodeficiency virus; pathogenic bacteria; inflammatory disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
15..671
/note= "This region is specifically
claim 45"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.7%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 3673; DB 23;
Pred. No. 1.7e-210;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             claimed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      671;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fungal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            viral
                                                          255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

Qy Вρ Ş 밁 ρy SSX

δõ DЪ

Claim

20;

SEQ

IJ

ŏ

51493; 103pp;

English.

```
RESULT 4
ABG21134
ID ABG2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÕ
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                     New isolated polynucleotide and encoded polypeptides, diagnostics, forensics, gene mapping, identification cresponsible for genetic disorders or other traits and biodiversity
                                                                                              N-PSDB; AAS85321
                                                                                                                                 Drmanac
                                                                                                                                                                                31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                                                                                                  WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                           ABG21134 standard;
                                                                                                                                                        (HYSE-)
                                                                                                                                                                                                                  30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                          11-OCT-2001.
                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                 food
                                                                                                                                                                                                                                                                                                                             Human;
                                                                                                                                                                                                                                                                                                                                                  Novel human diagnostic protein #21125.
                                                                                                                                                                                                                                                                                                                                                                           L8-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                              supplement;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDASAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .RVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEH
                                                                                                         2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAHACPYPMAPPNGHVSPVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPWIENIISDF 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDASAL
                                                                                                                                                                                                                                                                                                               chromosome mapping; gene mapping; gene therapy; forensic;
upplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                        HYSEQ INC
                                                                                                                                RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671
                                                                                                                                                                                                                                                                                                                                                                                                                           Protein;
                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                                                Tang
                                                                                                                                                                                                                                                                                                                                                                                                                           1034
                                                           of
                                              to assess
                                                           mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       375
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                           ZT 5
7559
                                        Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and aliagnostic amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention.

Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at the proposition of the products of the invention.
                                                                                                              Human; protease; PRTS; gastrointestinal disorder; peptic esophagitis; indigestion; gastritis; cardiovascular disorder; reproductive disorder; hypertensive heart disease; myocardial infarction; autoimmune disorder; inflammatory disorder; rheumatoid arthritis; cell proliferative disorder arteriosclerosis; cancer; epithelial disorder; eczema; endometriosis;
                                                                                                                                                                                                 Protease PRTS-1.
                                                                                                                                                                                                                           13-DEC-2001
                                                                                                                                                                                                                                                                            AAB47559 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy technique to restore normal activity of (II) or to treat disease states involving (II) is useful for generating antibodies against it, detecting or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromc and gene mapping, and in recombinant production of (II). The
                Modified-site
                                                                                Homo
                                                                                                        neurological disorder;
                                                                                                                                                                                                                                                                                                                                              979
                                                                                                                                                                                                                                                                                                                                                                                                                                                   859
                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     739
                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFT
                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                      YDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS 122
                                                                                                                                                                                                                                                                                                                                          YDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTST
                                                                                                                                                                                                                                                                                                                                                                                                          LCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCP
                                                                                                                                                                                                                                                                                                                                                                                                                                               NEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFT
                                                                                                                                                                                                                                                                                                                                                                                              LCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1034 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                           (first
                /label=
42
/label= Potential phosphorylation site
                                           Location/Qualifiers
1..19
                                                                                                                                                                                                                                                                            Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43.0%;
                                                                                                                                                                                                                        entry)
                                                                                                      Huntington's disease
                        Potential signal peptide
                                                                                                                                                                                                                                                                            728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1617; DB 22;
Pred. No. 4.1e-88;
0; Mismatches 0;
                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1034;
                                                                                                                                                                                                                                                                                                                                                                    296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                           1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chromosome
                                                                                                                              disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   iques
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
 WO200171004-A2
                                                Modified-site
                                                                                                    Active-site
                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                           Modified-site
                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                            Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
```

/label= 643..692 /label= 533 /label= 599 /label= 612 /label= 385 /label= 178 /label= 96 506 407 /label= 396 /label= 293 /label= 198 /label-167 /label-117 49 361 381 191 180 /label= 'label-/label= /label= /label= /label= /label= /label= /label= /label-/label= 'label-'label= 'label= 'label= 'label-'label= 'label= labellabel= labellabellabel-Potential Potential Potential Potential Potential Potential Potential phosphorylation site Serine Potential phosphorylation site Potential glycosylation Serine Potential Potential Potential Potential Potential Potential Potential phosphorylation Potential Potential Potential phosphorylation Potential phosphorylation protease active site protease active site phosphorylation site phosphorylation glycosylation phosphorylation glycosylation phosphorylation glycosylation glycosylation phosphorylation glycosylation phosphorylation glycosylation phosphorylation site site

```
Q
                                                                                                                                                              B
                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
QΥ
                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PD XXX PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for the treatment of diseases or conditions associated with decreased expression of functional protease. Disorders which can be treated include gastrointestinal (peptic esophagitis, indigestion and gastritis), cardiovascular (hypertensive heart disease, myocardial infarction), autoimmune/inflammatory (rhemmatoid arthritis), cell proliferative (arteriosclerosis, cancers), epithelial (eczema), neurological (Huntington's disease), and reproductive (endometriosis) disorders. This protein shows homology with the human precursor of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tang YT,
Hafalia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-MAR-2000;
14-APR-2000;
20-APR-2000;
28-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New polypeptide for treating autoimmune disorders, compris polynucleotides -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Au-Young J, Banaman Tang YT, Burford N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAH43512.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MRLLTLLGLLCGSVATPLGPKWP-EPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequences given in AAB47559-69 show novel human proteases PRTS-1
-11. These proteases can be administered in pharmaceutical compounds the treatment of diseases or conditions associated with decreased
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ħ,
                                                                                      ACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTM-KVNDGKYVCEADGFW
                                                                                                                                                              CPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIP
                                                                                                                                                                                                                CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMP
                                                                                                                                                                                                                                                                       PCPYDYIKIKVGPKVLGPFCGEKAPEPISTQSHSVLILFHSDNSGENRGWRLSYRAAGNE
                                                                                                                                                                                                                                                                                                            LCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP
                                                                                                                                                                                                                                                                                                                                                                              CRVECSDNLFTQRTGVITSPDFPNPYPKSSECLYTIELEEGEMVNLQFEDIFDIEDHPEV
                                                                                                                                                                                                                                                                                                                                                                                                          CSALCSGOVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YFMHENLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTPGQEVVLSPGSFMSITFRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-611509/70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRS 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page 109-11; 129pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DAM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        728 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; 2000US-190708P.
; 2000US-193182P.
; 2000US-197086P.
; 2000US-199022P.
; 2000US-200227P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lu Y, Patterson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bandman O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Policky JL,
iman O, Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42.8%;
43.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of Ra-reactive factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reating gastrointestinal, cardiovascular comprises novel human proteases (PRTS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Baughn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1608; D
Pred. No. 9.8e
24; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P,
MR,
C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Delegeane AM, 1
P, Borowsky ML,
-RIYGGQKAKPGDFPWQVLILGGTTA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nguyen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tribouley CM,
, Gandhi AR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Walia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , Khan Ft
Hillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FA;
                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          59
                                                                                                                                                              360
                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11;
```

```
AAB85060
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                        Novel pure mannan-binding lectin associated serine protease polypeptides and polymuclectides encoding the protein, used for treating recoxygenated isohemic tissues, mannon-binding lectin deficiency, multiple sclerosis
                                                                                                                                                                                                                                                                                                (JENS/)
                                                                                                                                               Claim 15; Page 88-96; 99pp; English
                                                                                                                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                                                                    21-JUL-2000; 2000DK-0001126
                                                                                                                                                                                                                                                                                                                                                                        30-NOV-2000; 2000WO-DK00659
                                                                                                                                                                                                                                                                                                                                                                                                07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                         WO200140451-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antiatherosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiarthritic; antianemic; antiinflammatory; antipsoriatic; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB85060 standard;
                                                                                                                                                                                                                                                                         Jensenius JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mannan-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mannan-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MNKVLGRSLPTCLPECGQPSRSLPSLVKRIIGGRNAEPGLFPWQALIVVEDTSRVPNDKW
                                                                                                                                                                                                                                                 2001-374820/39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DTCLGDSGGAFVIFDDLSQRWVVQGLVSWGGPEECGSKQVYGVYTKVSNYVGWV 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DSCRGDSGGALVFLDSETERWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NVTVDETISSGTRTLSDVLQYVKLPVVPHAECKTSYESRS-GNYSVTENMFCAGYYEGGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LHPDF-NIQNYNHDIALVQLQEPVPLGPHVMPVCLPRLEPEG-PAPHMLGLVAGWGISNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FGSGALLSASWILTAAHVLRSQRRDTTVIPVSKEHVTVYLGLHDVRDKSGAVNSSAARVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -- AGALLYDNWVLTAAHAVYEQKHDASALDI-RMGTLKRLSPHYTQAWSEA-----VF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               serine
                                                                                                                                                                                                                                                                                                JENSENIUS
THIEL S.
                                                                                                                                                                                                                                     AAF83895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protease MASP-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lectin associated serine protease-3; MASP-3; MBL;
lectin; complement; infection; cancer; cytostatic;
r; neuroprotective; anticonvulsive; antirheumatic;
                                                                                                                                                                                                                                                                                                                                                 99DK-0001721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -LARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein;
                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                 for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           626
```

preparing a pharmaceutical composition for treating aberrant MASP-3 activity such as infections, cancer, MBL-deficiency, disorders of the immune system and reproductive system. The MASP-3 polypeptide is also used for treating diseases associated with human immunodeficiency virus,

multiple sclerosis, myasthenia gravis, epilepsy, vasculitis, autoimmune hemolytic anemia, Crohn's

disease,

arthritis

and directly activates complement system through binding to MBL. To MASP-3 polypeptides, polynucleotides and modulators are useful for preparing a pharmaceutical composition for treating aberrant MASP-preparing a pharmaceutical composition for treating aberrant MASP-

The

protease-3 (MASP-3) polypeptide. MASP-3 exerts an inhibitory effect on the complement activation particularly when bound to MBL/MASP-2 complexes

The invention relates to a mannan-binding lectin (MBL) associated serine

```
RESULT 7
AAB85075
ID AAB8
XX
AC AAB8
XX
DT 06-A
                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diabetes, psoriasis, multiple myeloma, atherosclerosis etc. It is also useful for inhibiting activation of C4 complement by inhibiting the MBL pathway, inhibiting MASP-2 activity, inhibiting or treating an inflammatory condition related to complement activation through MBL/MASP complexes. MASP-3 is also useful for treating an inflammatory condition resulting from an autoimmune condition after acute myocardial infarction or brain ischemia. It is also useful for treating an individual suffering from a disorder resulting from an imbalanced cytokine network. The
                   06-AUG-2001
                                                                                             AAB85075 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               present sequence represents a human MASP-3 polypeptide.
                                                                                                                                                                                          658
                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                             469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MRLLTLLGLLCGSVATPLGPKWP-EPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL 59
                                                                                                                                                                                                                                                                                                                                                                                                                                            --AGALLYDNWVLTAAHAVYEQKHDASALDI-RMGTLKRLSPHYTQAWSEA------VF
:|||| :|:|||| : |: |: : :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRS 119
                                                                                                                                                                                                                      DSCRGDSGGALVFLDSETERWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTM-KVNDGKYVCEADGFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CPELQPPVHGKIEPSQAKYFFKDQVLVSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MRWLLLYYALCFSLSKASAHTVELNNMFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKL
                                                                                                                                                                                      DTCLGDSGGAFVIFDDLSQRWVVQGLVSWGGPEECGSKQVYGVYTKVSNYVDWV
                                                                                                                                                                                                                                                                 NVTVDELISSGTRTLSDVLQYVKLPVVPHAECKTSYESRS-GNYSVTENMFCAGYYEGGK
                                                                                                                                                                                                                                                                                                   GF------LARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGK
                                                                                                                                                                                                                                                                                                                                         LHPDF-NIQNYNHDIALVQLQEPVPLGPHVMPVCLPRLEPEG-PAPHMLGLVAGWGISNP
                                                                                                                                                                                                                                                                                                                                                                              IHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQR
                                                                                                                                                                                                                                                                                                                                                                                                                    FGSGALLSASWILTAAHVLRSQRRDTTVIPVSKEHVTVYLGLHDVRDKSGAVNSSAARVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MNKVLGRSLPTCLPECGQPSRSLPSLVKRIIGGRNAEPGLFPWQALIVVEDTSRVPNDKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TSSKGEKSLPVCEPVCGLSARTTGG---RIYGGQKAKPGDFPWQVLILGGTTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCKIVDCRAPGELEHGLITFSTRNNLTTYKSEIKYSCQEPYYKMLNNNTGIYTCSAQGVW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMP 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCPYDYIKIKVGPKVLGPFCGEKAPEPISTQSHSVLILFHSDNSAENRGWRLSYRAAGNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRYECSDNLFTQRTGVITSPDFPNPYPKSSECLYTIELEEGFMVNLQFEDIFDIQDHPEV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CSALCSGOVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPET 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YFMHFNLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTPGQEVVLSPGSFMSITFRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         728 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                   (first entry)
                                                                                           peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125;
                                                                                               284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1600;
Pred. No. 2
                                                                                             ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 22;
2.9e-87;
nes 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                suffering
                                                                                                                                                                                                                                                                                                     626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11;
```

Q 밁 Q В Ş

521

EGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGF

EGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGF

59

Matches

Conservative

0,

403

MKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI 462

LGGTTAAGAL--LYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIH 520 MKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQV--

118

58

Query Match Best Local Similarity

40.1%; 98.6%;

Score 1508; Pred. No. 3 Mismatches

.3e-82; DB 22; 0;

Indels Length

Gaps

Ŋ

284; 4.

Sequence

284 AA;

present

inflammatory condition related to complement activation through MBL/MASP complexes. MASP-3 is also useful for treating an inflammatory condition resulting from an autoimmune condition after acute myocardial infarction or brain ischemia. It is also useful for treating an individual suffering

a disorder resulting from an imbalanced cytokine network. The

sequence represents a MASP-2 polypeptide, used for comparison with MASP-3.

```
the complement activation particularly when bound to MBL/MASP-2 complexes and directly activates complement system through binding to MBL. The MASP-3 polypeptides, polypucleotides and modulators are useful for preparing a pharmaceutical composition for treating aberrant MASP-3 activity such as infections, cancer, MBL-deficiency, disorders of the immune system and reproductive system. The MASP-3 polypeptide is also used for treating diseases associated with human immunodeficiency virus, multiple sclerosis, myasthenia gravis, epilepsy, rheumatoid arthritis, vasculitis, autoimmune hemolytic anemia, Crohn's disease, asthma, diabetes, psoriasis, multiple mysloma, atherosclerosis etc. It is also useful for inhibiting activation of C4 complement by inhibiting the MBL pathway, inhibiting MASP-2 activity, inhibiting or treating an
                                                                                                                                                                                                                                                                                                                                                              The invention relates to a mannan-binding lectin (MBL) associated serine protease-3 (MASP-3) polypeptide. MASP-3 exerts an inhibitory effect on the complement activation particularly when bound to MBL/MASP-2 complexes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel pure mannan-binding lectin associated serine protease polypeptides and polypuclectides encoding the protein, used for treating recoxygenated ischemic tissues, mannon-binding lectin deficiency, multiple sclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mannan-binding lectin; complement; infection; cancer; cytostatic; immunomodulator; neuroprotective; anticonvulsive; antirheumatic; antiarthritic; antianemic; antiinflammatory; antipsoriatic; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Fig 6; 99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jensenius JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JUL-2000; 2000DK-0001126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-NOV-2000; 2000WO-DK00659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mannan-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (THIE/) THIEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (JENS/) JENSENIUS J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001-374820/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antiatherosclerotic; MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lectin associated serine protease-3; MASP-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99DK-0001721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of MASP-2 polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
```

Q Вb δÃ

Дb

```
RESULT 8
AAG80757
ID AAG8
XX
AC AAG8
XX
DT 15-A
XX
DE Huma
                                                                                                                                                                                                                                                                                                                                                                                                                                    This invention describes novel murine and human proteins, Clr, associated with tissue rejection against skin allograft. This sequence represents the human Clr protein described in the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human Clr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-111648/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-FEB-2000; 2000KR-0005516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-FEB-2000; 2000KR-0005516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KR2001077614-A
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 9-10; llpp; Korean.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BIOC-) BIO CLUE & SOLUTION CO (KIMT/) KIM T Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG80757 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; Clr; tissue rejection; skin allograft.
                                235
                                                             226
                                                                                            175
                                                                                                                           166
                                                                                                                                                         115
                                                                                                                                                                                      116
                                                                                                                                                                                                                                                                                                                                               hes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  omo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                     55
                                                                                                                                                                                                                                                 56
                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                 ш
                                                                                                                                                                                                                                                                                                                                                                             Match
                                                                                                                                                                        TFRSDYSNEKP-----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC
                                                                                                                                                                                                                                                                                                 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEVESEDVETHPETICPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITEVTDESGD
                                                                                       SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                      TFHTDF SNEENGT IMFYKGF LAYYQAYDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFL 640
HTGWKIHYTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSF
                             KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                      SCRAGYVLHRNKRTCSALCSGOVFTORSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                    RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL
                                                                                                                                                                                                                                               RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                                                                                                                                                                                                               MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFL 238
                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hwang HY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein
                                                                                                                                                                                                                                                                                                                                                                                                          705 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 relating
                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to rejection against skin
                                                                                                                                                                                                                                                                                                                                                             37.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kim
                                                                                                                                                                                                                                                                                                                                             107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          705
                                                                                                                                                                                                                                                                                                                                                           Score 1414;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LTD.
                                                                                                                                                                                                                                                                                                                                             Mismatches 248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TΥ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Park
                                                                                                                                                                                                                                                                                                                                                          DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 allograft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ryu
                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   686
                                                                                                                                                                                                                                                                                                                                                                          705;
                                                                                                                                                                                                                                                                                                                                             64;
                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                     165
344
                              294
                                                           285
                                                                                          234
                                                                                                                                                        174
                                                                                                                                                                                                                    114
                                                                                                                                                                                                                                                                               54
                                                                                                                                                                                                                                                                                                                                             22;
```

PAN CCCCXXX PTXXX PXXXX PXXXX

В 24 Дb Qy р Qy ДЬ Qy

Вþ Qy

Š

```
RESULT 9
ABB50288
  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
Detecting and identifying ovarian tumor, identifying increased risk for developing ovarian cancer, and determining effectiveness of ovarian cancer treatment, by measuring expression level of ovarian tumor marker
                                                                                                                                                                                                                                                                                                                                                             identification; serous cystadenoma; borderline serous tumour;
serous cystadenocarcinoma; mucinous cystadenocarcinoma;
mucinous cystadenoma; borderline mucinous tumour; endometrioid carcinoma;
                                                        N-PSDB; ABA83114
                                                                                                                                                                                                                                                                                                     undifferentiated carcinoma; clear cell adenocarcinoma; cystadenofibroma; adenofibroma; Brenner tumour; serial analysis of gene expression; SAGE; immune response pathway; cell proliferation regulation; protein folding; membrane localised; secreted; therapeutic target; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                    Ovarian tumour marker gene; human; overexpression; upregulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Complement component 1 r ovarian tumour marker protein, SEQ ID NO:66
                                                                                                                                                     03-APR-2000; 2000US-194336P
                                                                                                                                                                                  03-APR-2001;
                                                                                                                                                                                                            11-OCT-2001
                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB50288 standard;
                                                                                                                                                                                                                                      WO200175177-A2
                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                    epithelial tumour; cancer; diagnosis; prognosis; disease monitoring;
                                                                                                                          USSH ) US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             295
                                                                     2001-626450/72
                                                                                                                                                                                                                                                                                          therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V-------NDGKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAVCQDDGTWHRAMPRCKIKDCGQPRNLPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GLMGYVSGFGVMEEK-IAHDLRFVRLPVANPQAC----ENWLRGKNRMDVFSQNMFCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PHYTQAWSEAVFIHEGYTHDA---GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NFPWQVFTNIHGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGHTNVEELMKLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRAGSRESEQGYYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK 404
                                                                                                ΡJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     698
                                                                                                                          DEPT HEALTH & HUMAN SERVICES
                                                                                                Sherman-Baust CA,
                                                                                                                                                                                  2001WO-US10947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                           vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                Pizer ES,
                                                                                               Hough CD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354
```

gene

```
Ş
                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                           Š
                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 301; Conservative 108; Mismatches 248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  thear cell adenocarcinoma, cystadenofibroma, adenofibroma and Brenner Lumour. The ovarian tumour marker genes of the invention were identified using SAGE (serial analysis of gene expression) and were found to be overexpressed in a broad variety of ovarian epithelial tumour cells relative to normal ovarian epithelial cells. The marker genes are implicated in immune response pathways, in the regulation of cell proliferation and in protein folding, and many of these are membrane-localised or secreted. In addition to their use as diagnostic and prognostic markers, the ovarian tumour marker genes or their encoded proteins may be used as therapeutic targets for the treatment and prevention of ovarian cancer. Sequences ABS50257-ABS50299 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   assessing the relative severity of ovarian cancer, in tests for monitoring a patient in remission from ovarian cancer and in tests for monitoring disease status in a patient being treated for ovarian cancer. The methods can additionally be used to identify a particular tumour as being an ovarian tumour (i.e., an epithelial ovarian tumour selected from serous cystadenoma, borderline serous tumour, serous cystadenoma, borderline mucinous tumour, mucinous cystadenoma, borderline mucinous tumour, mucinous cystadenoma, borderline mucinous tumour, mucinous cystadenoma, endometrioid carcinoma, undifferentiated carcinoma, cystadenocarcinoma, endometrioid carcinoma, undifferentiated carcinoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to methods for diagnosing and prognosing ovarian tumours in an individual via the detection and measurement of the expression of ovarian tumour marker genes (ABA83181-ABA83122, ABA83180, ABA83182 and ABA83184) or segments thereof (ABA83123-ABA83169, ABA83179, ABA83181 and ABA83183). The methods of the invention are useful for detecting an ovarian tumour in a patient, for identifying an individual at increased risk for developing ovarian cancer, in prognostic tests for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
       474
                                                                                                                                                                                                                                                 345
                                                                                                                                                                                                                                                                                                 295
                                                                                                                                                                                                                                                                                                                                                 286
                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>_</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY 55
                                                                                                                                                                                                                     TAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TFRSDYSNEKP-----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC
                                                                                                                              V-----NDGKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPG
                                                                                                                                                                                                                                                                                                                        HTGWKIHYTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSF
                                                                                                                                                                                                                                                                                                                                                                                                                      DFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
NFPWQVFTNIHGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGHTNVEELMKLG
                                             DFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDA---SALDIRMG-----TLKRLS
                                                                                                                                                                                              TAVCQDDGTWHRAMPRCKIKDCGQPRNLPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQ
                                                                                                                                                                                                                                                                                         SRGWKLRYTTEIIKCPQPKTLDEFTIIQNLQPQYQFRDYFIATCKQGYQLIEGNQVLHSF
                                                                                                                                                                                                                                                                                                                                                                                          KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                             TRAGSRESEQGVYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                encoded by ovarian tumour marker genes of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 107-109; 140pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     705 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            37.6%; Score 1412; DB 22; 41.7%; Pred. No. 4.2e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54
533
                                                                                             473
                                                                                                                                                                                              414
                                                                                                                                                                                                                                                                                         354
                                                                                                                                                                                                                                                                                                                                          344
                                                                                                                                                                                                                                                                                                                                                                                          294
                                                                                                                                                                                                                                                                                                                                                                                                                                        285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22;
```

```
δÃ
                                                      DЪ
                                                                              δÃ
                                                                                                            Вр
                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG80756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
                                                                                                                                                                 Matches 282;
                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                             This invention describes novel murine and human proteins, Clr, associated with tissue rejection against skin allograft. This sequence represents the murine Clr protein described in the invention.
                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                   Disclosure; Page 9-10; 11pp; Korean
                                                                                                                                                                                                                                                                                                                                Mouse gene relating to
                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-111648/15
                                                                                                                                                                                                                                                                                                                                                                                    Byun SJ, Hwang HY,
                                                                                                                                                                                                                                                                                                                                                                                                                (BIOC-) BIO CLUE & SOLUTION CO (KIMT/) KIM T Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-FEB-2000; 2000KR-0005516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-FEB-2000; 2000KR-0005516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KR2001077614-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Murine; Clr; tissue rejection; skin allograft.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murine Clr protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAG80756;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAG80756 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-AUG-2001
  121
                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         507 PHYTQAWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      680 E 680
                                                       61
                                                                                 63
                                                                                                                                   3 LLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFT 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLMGYVSGFGVMEEK-IAHDLREVRLPVANPQAC-----ENWLRGKNRMDVFSQNMFCA
                         NEKP-----FTGFEAFYAAEDIDECQVAP-----GEAPTCDHHCHNHLGGFYCSCRAGYV 172
                                                                              HFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYS 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            K 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCA 619
NEENGTIMFYKGFLAYYQAVDLDECASQPNSVEEGLQPRCQHLCHNYVGGYFCSCHPGYE
                                                    QFDVEPSEGCFYDYVKISADKQTLGRFCGQLDSPLGNPPGRKEFMSQGNKMLLTFHTDFS
                                                                                                           LVTLFYGVEGSIYL-----PQKLYGEVTSPLYPKPYPSDLETTTVITVPMGYRVKLVFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NHPIR----RVSVHPDYRQDESYNFEGDIALLELENSVTLGPNLLPICLP--DNDTFYDL
                                                                                                                                                                                                                       707 AA;
                                                                                                                                                                Conservative 120; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                      Kim
                                                                                                                                                                              36.8%; Score 1384; DB 23; 39.2%; Pred. No. 2e-74;
                                                                                                                                                                                                                                                                                                                              rejection against skin allograft
                                                                                                                                                                                                                                                                                                                                                                                      GE,
                                                                                                                                                                                                                                                                                                                                                                                    Kim TY,
                                                                                                                                                                                                                                                                                                                                                                                                                               LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΑA
                                                                                                                                                                                                                                                                                                                                                                                      Park YI,
                                                                                                                                                                260;
                                                                                                                                                                Indels
                                                                                                                                                                58;
                                                                                                                                                                Gaps
                                                                                                           60
                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      640
                                                                                                                                                                16;
```

```
RESULT 11
AAB43579
                                                                                                                                                                                                                                                                                                                                                                                                                                                    immune disorder; haematopoietic cell disorder; autoimmune disorder;
allergic reaction; graft versus host disease; organ rejection;
haemostatic; thrombolytic; cardiovascular disorder; infection;
                                                                                                                                                                                                               08-MAR-2000;
                                                                                                                                                                                                                                                                                                                       WO200055350-A1
                                                                                                                                                                                                                                                                                                                                                                                                                           neurological disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dermatological; neuroprotective; thrombolytic; coagulant; nootropic; vasotropic; antipsoriatic; antiangiogenic; gene therapy; inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-FEB-2001
                                                    Rosen CA,
                                                                                                      (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                             12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; cancer associated gene; cancer antigen; detection; cancer; diagnosis; cytostatic; proliferative; vulnerary; immunomodulator; ntidiabetic; antiasthmatic; antirheumatic; antiarthritic; antiarthritic; antitial; distinction; antiarthritic; antitial; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human cancer associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB43579 standard;
                                                                                                                                                                                                                                                                   21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              173
2000-587533/55
                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----RVIIHPDYRQDEPNNFEGDIALLELENSVTLGPELLPICLP--DNETFYGQGLMGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMRGIYTCTAQGIWKNEEEGEKMPRCLPVCGKPVNPVTQKERIIRGQPARPGNFPWQAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YTTETIKCPQPKALDEFTIIQDPQPQYQFRDYFIYTCKQGYQLMEGNQALLSFTAVCQND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QDACQGDSGGVFAVRDRNRDIWVATGIVSWG-IGCGEG--YGFYTKVLNYVDWIKKEMGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSGFGITE-DKLAFDLRFVRLPVADSEACQRWLQTKKDTSPF-----SQNMFCSGDPAVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASGWGLTQRGFLARNLMYVDIPIVDHQKC----TAAYEKPPYPRGSVTANMLCAGLESGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTHGRGGGALLGDRWILTAAHTIYPKHHNKENDNANPKMLVFLGHTNVEQIKKLGHHPVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LGGTTAAGALLYDNWVLTAAHAVYEQKHDAS-----ALDIRMG-----TLKRLSPHYTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----YVCEADGFWTSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTWHRAMPRCKIKNCGQPQSLSNGDFRYITTKGVTTYEASIQYHCHEPYYKMLTRAGSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDDHQQVHCPYDQLQIYANGKNLGEFCGKQRPPDLDTSSNAVDLLFFTDESGDSRGWKLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LQKDGQSCQAECSSELYTEPSGYVSSLEYPQPYPPDLRCNYSIRVERGLTVHLKFLDPFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFD
                                                    Ruben SM;
                                                                                                                                                                                                               2000WO-US05882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                          9908-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                              drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein sequence SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                              screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ID NO:1024.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              232
```

DRX PA

В

Q

밁 δ 밁 δÃ

Qy ΡЬ Qy

В

EXEXEXEX

В

Qy 뫄 Qy Db QY

```
Д
                                                                                                                                                                                 Š
                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ameliorating medical conditions and diagnosing pathological conditions. Polynucleotides, polypeptides, antibodies, agonists and antagonists from the present invention may be used to treat immune disorders by activating or inhibiting the proliferation, differentiation or mobilisation of immune cells, to treat disorders of haematopoietic cells, autoimmune disorders, allergic reactions, graft versus host disease and organ rejection, modulate haemostatic or thrombolytic activity, modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dermatological; neuroprotective; cardiant; thrombolytic; coagulant; nootropic; vasotropic; antipsoriatic and antiangiogenic. The polynucleotides and polypeptides can be used for preventing, treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                inflammation, cancers, cardiovascular disorders, neurological disease and bacterial or viral infections. The peptides, nucleotides, antibodies, agonists and antagonists may be also be used in drug screens. AAC78449 to AAC78457 and AAB44240 represent sequences used in the exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antiinflammatory; antithyroid; antiallergic; antibacterial; antiviral;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antidiabetic; antiasthmatic; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in AAB43398 to AAB44239. The proteins can have activities based on tissues and cells the genes are expressed in Example of activities include: cytostatic; proliferative; vulnerary; immunomodulator;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 11; Page 1605-1608; 2352pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAC77788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the present invention.
                                                                                                                                           480
                                                                                                                                                                                   417
                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                     358
                                                                                                                                                                                                                                                                                                             364
                                                                                                                                                                                                                                                                                                                                                      298
                                                                                                                                                                                                                                                                                                                                                                                             304
                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ш,
                                                                                                                                                                                                                                                                                                                                                                                           GNCLDSLVFVAGDRQFGPYCGHGFPGXLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY 60
                                                                                                  DNWVLTAAHAVYEQKH-
                                                                                                                                                                                 FWTSSKGEKSLPVCEPVCGLSAR--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLY
                                                                                                                                                                                                                            KLKCQPVDCGIPESIENGKVE---DPESTLFGSVIRYTCEEPYYYMENGGGGEYHCAGNG
                                                                                                                                                                                                                                                                                                             MPCP-KEDTPNSVWEPAKAKYVFRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNS
                                                                                                                                                                                                                                                                                                                                                  QPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRP
                                                                                                                                                                                                                                                                                                                                                                                                                    LCPYDFLKIQTDREEHGPFCGKTLPH---RIETKSNTVTITFVTDESGDHTGWKIHYTSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GVNCSGDVFTALIGEIASPNYPKPYPENSRCEYQIRLEKGFQVVVTLRREDFDVEAADSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SALCSGOVFTORSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSNEERFTGFAAYYVATDINECTDFV-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMKNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FTHLDIELSENCAYDSVQIISGDTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MWCIVLFSLLAWVYAEP-----TMYGEILSPNYPQAYPSEVEKSWDIEVPEGYGIHLY
                   -THDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLA
                                                           EYWVLTAAHVVEGNREPTMYVGSTSVQTSRLAKSKMLTP-----EHVFIHPGWKLLEV
                                                                                                                                           SWVNEVLGPELPKCVPVCGVPREPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALIN
                                                                                                                                                                                                                                                                   MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYVCEADG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              isolated nucleic acids comprising sequences encoding peptides {\bf l} for treating or diagnosing e.g. cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            760 AA;
Conservative 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAC78448 encode the human cancer associated proteins given
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 =
                                                                                                  -DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1238; DB
Pred. No. 1e-65;
::
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           283;
<del>--</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                     416
                                                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125
                                                                                                    523
                                                                                                                                                                                                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   o
F
```

18;

```
PT DRXX PAX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Z S X E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB58274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                           Polynucleotide sequences AAF17982 - AAF18424 encode human lung cancer associated proteins represented in AAB58106 - AAB58548. Lung cancer associated proteins and polynucleotide sequences, their agonists, and antagonists may have neuroprotective; cytostatic; cardioactive; immunomodulatory; muscular active general; vulnerary; gastrointestinal general; nephrotropic; antiinfective; gynecological; or antibacterial activity. The invention also includes antibodies specific for the
                                                  chromosome identification, as chromosome markers, and for numerous otherwise diagnostic or research purposes. The proteins may be used to treat disorders such as neural, immune, muscular, reproductive, gastrointestinal, pulmonary, cardiovascular, renal, and proliferative disorders. The proteins may also be used in the treatment of wounds are infectious diseases. Polynucleotide sequences AAF18425 - AAF18433 and peptide AAB8549 are used in the course of the invention for the identification and characterisation of the polynucleotide and protein
                                                                                                                                                                                                     protein or polynucleotide sequences. The lung cancer associated polynucleotide sequences may be used for detection of lung cance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; lung cancer associated protein; neuroprotective; cytostatic; cardioactive; immunomodulatory; muscular active; vulnerary; gastrointestinal; nephrotropic; antiinfective; gynecological; antibacterial; diagnosis; neural disorder; immune disorder; reproduproliferative disorder; wound healing; infectious disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lung cancer associated gene sequences, referred to as lung cancer antigens, useful for treatment, prevention, and diagnosis of diso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-587514/55
N-PSDB; AAF18150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAR-2001
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-MAR-2000; 2000WO-US05918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200055180-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB58274 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                      blaim 11; Page 1104-1106; 1425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HUMA-) HUMAN GENOME SCI INC
(ROSE/) ROSEN C A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                            as lung cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LD-SETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QDPNDKTKFYAAGLVSWGP----QCGTYGLYTRVKNYVDWI 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VRLKAARLPVAPLRKCKEVKVEKPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAV 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RNLMYVDIPIVDHQKC-TAAYEKPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVF 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PEGRTNFDNDIALVRLKDPVKMGPTVSPICLPGTSSDYNLMDGDLGLISGWGRTEKRDRA
449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         associated polypeptide sequence SEQ ID 612.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                679
                                                                                                                                                                                                                                                                                       gastrointestinal
                                                                                                                                                                                                             lung cancer,
                                                                                                                                                                                        numerous other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            reproductive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 651
                                                                                                              and
```

Query Match

22.78;

Score

852.5;

DB 21;

Length 449;

as lung cancer

disorders

```
RESULT 13
AAB58
AAB 58
XX AAB58
AC AAB5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardioactive; immunomodulatory; muscular active; vulnerary;
gastrointestinal; nephrotropic; antiinfective; gynecological;
antibacterial; diagnosis; neural disorder; immune disorder; r
                       Lung cancer associated gene sequences, referred to as lung cancer antigens, useful for treatment, prevention, and diagnosis of diso
                                                                                                               N-PSDB;
                                                                                                                                                                                                                                                                                                                                        12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                               08-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200055180-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proliferative disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lung cancer associated polypeptide sequence SEQ ID 611.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB58273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB58273 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                             ( HUMA - )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             415 TGIVSWG-IGCSRG--YGFYTKVLNYVDWIK 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                            2000-587514/55
DB; AAF18149.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GPECGKTLPHRIETKSNTYTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPN-GHVSPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GEFCGKQRXPDLDTSSNAVDLLFFTDESGDSRGWKLRYTTEIIKCPQPKTLDEFTIIQNL 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LLELENSVTLGPNLLPICLP--DNDTFYDLGLMGYVSGFGVMEEK-IAHDLRFVRLPVAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LYPKEHEAQSNASLDVFLGHTNVEELMKLGNHPIRRXS----VHPDYRQDESYNFEGDIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VYEQKHDA---SALDIRMG----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GFDNDIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPRCLPVCGKPVNPVEQRQRIIGGQKAKMGNFPWQVFTNIHGRGGGALLGDRWILTAAHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHA 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GDFRYTTTMGVNTYKARIQYYCHEPYYKMQTRAGSRESEQGVYTCTAQGIWKNEQKGEK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GRVEYITGPGVTTYKAVIQYSCEETFYTMKV-----NDGKYVCEADGFW-TSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QPQYQFRDYFIATCKQGYQLIEGNQVLHSFTAVCQDDGTWHRAMPRCKIKDCGQPRNLPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPS 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PQAC-----ENWLRGKNRMDVFSQNMFCAGHPSLKQDACQGDSGGVFAVRDPNTDRWVA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HQKCTAAYEKPPYPRGS-----VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        186;
                                                                                                                                                                                                                                                      HUMAN GENOME SCI INC
ROSEN C A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cancer associated protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US05918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                        99US-0124270.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           wound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 4.8e-43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        infectious disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               reproductive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15;
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 138; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         associated proteins represented in AABS9106 - AABS9548. Lung cancer associated proteins and polynucleotide sequences, their agonists, and antagonists may have neuroprotective; cytostatic; cardioactive; immunomodulatory; muscular active general; vulnerary; gastrointestinal general; nephrotropic; antiinfective; gynecological; or antibacterial activity. The invention also includes antibodies specific for the protein or polynucleotide sequences. The lung cancer associated polynucleotide sequences. The lung cancer associated
                                                        Homo sapiens
                                                                                                antidiabetic; antiatherosclerotic;
                                                                                                               mannan-binding lectin; complement; infection; cancer; cytostatic; immunomodulator; neuroprotective; anticonvulsive; antirheumatic; antiarthritic; antianemic; antiinflammatory; antipsoriatic; human
                                                                                                                                                     Mannan-binding lectin associated serine protease-3; MASP-3; MBL; mannan-binding lectin; complement; infection; cancer; cytostatic
                                                                                                                                                                                                                  Amino acid sequence of Clr polypeptide
                                                                                                                                                                                                                                                              06-AUG-2001
                                                                                                                                                                                                                                                                                                                                         AAB85077 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gastrointestinal, pulmonary, cardiovascular, renal, and proliferative disorders. The proteins may also be used in the treatment of wounds an infectious diseases. Polynucleotide sequences AAF18425 - AAF18433 and peptide AAB58549 are used in the course of the invention for the identification and characterisation of the polynucleotide and protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chromosome identification, as chromosome markers, and for numerous other diagnostic or research purposes. The proteins may be used to treat disorders such as neural, immune, muscular, reproductive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 11; Page 1103-1104; 1425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polynucleotide sequences may be used for detection of lung cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    equences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY 55
                                                                                                                                                                                                                                                                                                                                                                                                                                            SRGWKLRYTTEXHQVPPAQDP 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TFRSDYSNEKP----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351 AA;
                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequences AAF17982
                                                                                                                                                                                                                                                                                                                                         peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50;
                                                                                                                                                                                                                                                                                                                                           293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 681.5; DB 2
Pred. No. 5.4e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches 112; Indels
                                                                                                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                - AAF18424 encode human lung cancer
                                                                                                Clr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7;
```

```
RESULT 15
AAB23624
ID AAB23
                                                                                                                                                                                        망
                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        diabetes, psoriasis, multiple myeloma, atherosclerosis etc. It is also useful for inhibiting activation of C4 complement by inhibiting the MBL pathway, inhibiting MASP-2 activity, inhibiting or treating an inflammatory condition related to complement activation through MBL/MASP complexes. MASP-3 is also useful for treating an inflammatory condition resulting from an autoimmune condition after acute myocardial infarction or brain ischemia. It is also useful for treating an individual suffering from a disorder resulting from an imbalanced cytokine network. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MASP-3 polypeptides, polynucleotides and modulators are useful for preparing a pharmaceutical composition for treating aberrant MASP-3 activity such as infections, cancer, MBL-deficiency, disorders of the immune system and reproductive system. The MASP-3 polypeptide is also used for treating diseases associated with human immunodeficiency virus, multiple sclerosis, myasthenia gravis, epilepsy, rheumatold arthritis, vasculitis, autoimmune hemolytic anemia, Crohn's disease, asthma, vasculitis, autoimmune hemolytic anemia, Crohn's disease, asthma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polypeptides and polynucleotides encoding the protein, used fitreating reoxygenated ischemic tissues, mannon-binding lectin deficiency, multiple sclerosis \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   present sequence represents a Clr polypeptide, used for comparison studies with MASP-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the complement activation particularly when bound to MBL/MASP-2 complexes and directly activates complement system through binding to MBL. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a mannan-binding lectin (MBL) associated serine protease-3 (MASP-3) polypeptide. MASP-3 exerts an inhibitory effect on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 6; 99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-374820/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel pure mannan-binding lectin associated serine protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-JUL-2000; 2000DK-0001126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-NOV-2000; 2000WO-DK00659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (THIE/) THIEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (JENS/) JENSENIUS J C.
                                                                                                        239
                                                                                                                                                                                        186
                                                                                                                                                                                                                                                                           128
                                                                                                                                                                                                                                                                                                                  517
                                                                                                                                                                                                                                                                                                                                                                                                    465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408
                                                                                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                                                                                                                                              13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                        QGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWIK
                                                                                                                                                                                                                                                                         VSVHPDYRQDESYNFEGDIALLELENSVTLGPNLLPICLP--DNDTFYDLGLMGYVSGFG
                                                                                                                                                                                                                                                                                                                VFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG
                                                                                                                                                                                                                                                                                                                                                         HGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGHTNVEELMKLGNHPIR----R 127
                                                                                                                                                                                                                                                                                                                                                                                                  GTTAAGALLYDNWVLTAAHAVYEQKHDA---SALDIRMG----TLKRLSPHYTQAWSEA 516
                                                                                                                                                                                                                                                                                                                                                                                                                                         GVYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMGNFPWQVFTNI 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLILG
                                                                                                                                           RGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                        VMEEK - IAHDLRFVRLPVANPQAC - - - - - ENWLRGKNRMDVFSQNMFCAGHPSLKQDAC
                                                                                                                                                                                                                               LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCAGLESGGKDSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              293 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Thiel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99DK-0001721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13.2%;
39.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 494.5; DB 2
Pred. No. 5.9e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     464
```

AAB23624 standard;

Protein; 464

AΑ

185 574

```
õ
                                                                                                                                                                     PSSSSSSSX &
                                                                                                                                                                                                                                                                                                                                                                   В
                                                        В
                                                                                 Š
                                                                                                              Matches
                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-1999;
29-NOV-1999;
29-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-FEB-1999;
23-APR-1999;
17-AUG-1999;
23-SEP-1999;
                                                                                                                                                                                                        autoimmune diseases, as haematopoiesis regulators (treating myeloid or lymphoid cell deficiencies), in the promotion of tissue growth, they may have chemokine or chemotactic activity, haemostatic or thrombolytic
                                                                                                                                                                                                                                                The present sequence is the sequence of a human secreted protein. Its DNA was isolated from an adult muscle cDNA library. The proteins and coding sequences of the invention can be used in the isolation of similar genes and proteins, in the elucidation of their function in vivo, and to treat a number of conditions. It is possible that they may have uses as nutritional supplements, as cytokine or cell proliferation factors, in immune modulation, where they may be used to treat immune and
                                                                                                                                                                                                                                                                                                                                                                    Claim 57;
                                                                                                                                                                                                                                                                                                                                                                                          New secreted proteins and polynucleotides encoding them, which are derived from Homo sapiens, useful for therapy, diagnosis, and resea as well as nutritional sources or supplements -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Valenzuela D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; secreted protein; cytokine; cell proliferation;
nutritional supplement; immune modulation; autoimmune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human secreted protein SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB23624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ALPH-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             haematopoiesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0200049134-A1
                                255
    85
                                                        28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-549267/50
                                                                       ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE 254
PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH---
                          HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP 306
                                                       QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFYGSD
                                                                                                             al Similarity
142; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALPHAGENE
                                                                                                                                                                                                                                                                                                                                                                 Page 275-276; 309pp; English.
                                                                                                                                                                                              or anti-inflammatory activity
                                                                                                                                                                     464
                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0298733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US04340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0157247.
99US-0167822.
99US-0167823.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0120680.
99US-0298733.
99US-0149639.
99US-0155686.
                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yuan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regulation; tissue growth; haemostasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label signal_peptide
15..464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ó
                                                                                                                           13.1%;
27.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hoffman H,
                                                                                                             Score 493.5; |
Pred. No. 1.1e
73; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             наll J,
                                                                                                                        .1e-21;
                                                                                                                                        DB 21;
                                                                                                              194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rapiejko
                                                                                                             Indels
                                                                                                                                       Length 464;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inflammation
                                                                                                             106;
                                                                                                                                                                                                                                                                                                                                                                                                          research,
                                                                                                             Gaps
                                                       84
                                                                                                             20;
```

03-MAR-2000; 06-MAR-2000; 06-MAR-2000; 17-MAR-2000; 07-APR-2000;

```
RESULT 16
AAU08684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bronchial asthma; Avellino type eosinophills; lung disease; deafness; reproductive disorder; reproductive disorder; glycoprotein Ia deficiency; desmoid disease; turcot syndrome; liver cirrhosis; hepatitis C; virucide; gastric disorders; pancreatic disease; Schistosoma mansoni infection; Spinocerebellar ataxia; Plasmodium falciparum parasitaemia; diabetes; Corneal dystrophy-Greenouw type I; Corneal dystrophy-Lattice type I; Reis-Bucklers corneal dystrophy; cytostatic; immunosuppressive; antialtergic; antiasthmatic; antiinfertility; antiinfammatory; antidiabetic; protozoacide; hepatotropic; virucide; ophthalmological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neurological disorder; neurodegenerative disorders; nerve trauma; familial myelodysplastic syndrome; Charcot-Marie-Tooth neuropathy; demyelinating Gardner syndrome; familial myelodysplastic syndrome; mental health condition; immunological disorder; allergy; infertility;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antidiabetic; protozoacide; hepatotropic; virucide; ophthalmological;
gynaecological; antiinfertility; immunostimulant; auditory; haemostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAU08684
                                                                                                                                                                                                03-MAR-2000;
                                                                                                                                                                                                                                                                05-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       astrocytoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human FCTR5b polypeptide sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  430 TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GF 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGDSGSVYVVWDNHAHHWVA 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAHTVYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VLQCMPVCGRPVTPIAQNQTT-----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard;
2000US-186592P.
2000US-186718P.
2000US-187293P.
2000US-187294P.
2000US-190400P.
2000US-196018P.
2001US-259548P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             congenital neonatal alloimmune thrombocytopaenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                2001WO-US07160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FCTR5b; human complement C1R component precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  myelogenous leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----KGFLALYQTVAV----NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  carcinoma; melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  glioma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         257
```

Вb δÃ g Ω

Qy Вb δÃ Вþ δÃ Qy 밁 δÃ

밁

```
QY
                                                                    DЬ
                                                                                                Qy
                                                                                                                                          밁
                                                                                                                                                                        Qy
                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to human FCTRX polypeptides, FCTR1-FCTR7, and the nucleic acids encoding them. These sequences are useful for the treatment or prevention of numerous disorders including myelogenous leukaemia, carcinomas, melanomas, gliomas, astrocytomas, congenital neonatal alloimmune thrombocytopaenia, neurological disorders, neurodegenerative disorders, nerve trauma, familial myelodysplastic syndrome, mental health conditions, immunological disorders, allergy and infection, bronchial asthma, Aveilino type eosinophilia, lung diseases, reproductive disorders, glycoprotein is deficiency, desmale reproductive disorders, deafness, glycoprotein is deficiency, desmale reproductive disorders, liver cirrhosis, hepatitis C, gastric disorders, tito disorders, intertiblity, male
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   disorders, pancreatic diseases such as diabetes, Schistosoma mansoni infection Spinocerebellar ataxia, Plasmodium falciparum parasitaemia, Corneal dystrophy-Greonouw type I, Corneal dystrophy-lattice type I and Reis-Bucklers corneal dystrophy. This sequence represents FCTR5b, a human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Reis-Bucklers (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         states
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             detection, prevention
states -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel polypeptides designated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vernet CAM, I
Macdougall J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CURA-)
436
                                                                      378
                                                                                                                                              320
                                                                                                                                                                                515
                                                                                                                                                                                                                                                        464
                                                                                                                                                                                                                                                                                                                              410
                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                          208
                                                                                                                                                                                                                                                                                                                                                                                                       350
                                                                                                                                                                                                                                                                                                                                                                                                                                         151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                  ---NYSQPISEA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QACPTRGSVLLAQQLPQQLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHP 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001-596837/67
                                                                                                                                            HRVVVHPDYRQNESHNFSGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSG
                                                                                                        WGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGD 632
                                                                                                                                                                              EAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASG 572
                                                                                                                                                                                                                                                      GGTTAAGALLYDNWVLTAAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWS
                                                                                                                                                                                                                                                                                          LTCATPGTWKDRQDGEEVLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTS
                                                                                                                                                                                                                                                                                                                                                                                               KDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGK 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQDCAGDSVTISFVGSDPSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTA 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ETICPYDFLKIQTDREEHGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGW 289
SGSLYVVWDNHAHHWVATGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN
                                  SGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                    FGM-EMGWLTTELKYSRLPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGD
                                                                                                                                                                                                                    IHGRGGGALLGDRWILTAAHTIYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----
                                                                                                                                                                                                                                                                                                                             YVCEADGFWTSSKGEKSLPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAS14092.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fernandes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        component
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mishra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 215pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13.1%;
27.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                jE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mezes PS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shimkets RA, ne...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 492; DB 22;
Pred. No. 1.4e-21;
                                                                                                                                                                                                                                                                                                                                                                 -SRGSEAINAPGDNPAK---VQNHCQEPYY-QAAAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           às
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FCTRX polypeptides,
ent of a broad range
                                                                                                                                                                                                                                                                                                                                                                                                                                         -----KGFLALYQTVAV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Herrmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          useful
of path
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Majumder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pathological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             106;
484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7
                                                                                                                                            377
                                                                                                                                                                                                                    319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
```

```
RESULT 17
AAU08683
familial myelodysplastic syndrome; Charcot Marie Tooth neuropathy; demyelinating Gardner syndrome; familial myelodysplastic syndrome; mental health condition; immunological disorder; allergy; infertility; bronchial asthma, Avellino type eosinophilia; lung disease; deafness; reproductive disorder; reproductive disorder; glycoprotein Ia deficiency; desmoid disease; turcot syndrome; liver cirrhosis; hepatitis C; virucide; gastric disorders; pancreatic disease; Schistosoma mansoni infection; spinocerebellar ataxia; plasmodium falciparum parasitaemia; diabetes; corneal dystrophy-Greonouw type I; Corneal dystrophy-lattice type I; Reis-Bucklers corneal dystrophy; cytostatic; immunosuppressive; antidiabetic; protozoacide; hepatotropic; virucide; ophthalmological; antidiabetic; antinfertility; immunostimulant; adminostatic; memostatic; ophthalmological; antinfertility; immunostimulant; adminostatic;
                                                                                                                    The invention relates to human FCTRX polypeptides, FCTR1-FCTR7, and the nucleic acids encoding them. These sequences are useful for the treatment or prevention of numerous disorders including myelogenous leukaemia, carcinomas, melanomas, gliomas, astrocytomas, congenital neonatal alloimmune thrombocytopaenia, neurological disorders, neurodegenerative disorders, nerve trauma, familial myelodysplastic syndrome,
                                                Charcot-Marie-Tooth neuropathy, demyelinating Gardner syndrome, famyelodysplastic syndrome, mental health conditions, immunological disorders, allergy and infection, bronchial asthma, Avellino type eosinophilia, lung diseases, reproductive disorders, infertility,
                                                                                                                                                                                                                                                                                                      Novel polypeptides designated as FCTRX polypeptides, useful in detection, prevention and treatment of a broad range of pathological \ensuremath{\mathsf{T}}
             and female reproductive disorders, deafness, glycoprotein Ia deficiency, desmoid disease, turcot syndrome, liver cirrhosis, hepatitis C, gastric
                                                                                                                                                                                                                                                                                                                                                                N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-MAR-2000;
17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          astrocytoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAU08683 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                   Macdougall J,
                                                                                                                                                                                                                                                                                                                                                                                                                                    Vernet CAM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                              2001-596837/67.
DB; AAS14091.
                                                                                                                                                                                                                                                   1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FCTRX;
                                                                                                                                                                                                                                                   Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disorder; neurodegenerative disorders; nerve trauma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            polypeptide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                    Fernandes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-187294P
2000US-190400P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001WO-US07160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      congenital neonatal alloimmune thrombocytopaenia; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-196018P
2001US-259548P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-186718P.
2000US-187293P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-186592P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FCTR5a; human complement C1R component precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         myelogenous leukaemia;
                                                                                                                                                                                                                                                     94;
                                                                                                                                                                                                                                                                                                                                                                                                                   Mishra
                                                                                                                                                                                                                                                   215pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                             jς Ε,
                                                                                                                                                                                                                                                                                                                                                                                                                   Shimkets RA,
Mezes PS, Ras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          carcinoma; melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                   Rastelli L;
                                                                                                                                                                                                                                                                                                                                                                                                                                    JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                      Majumder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            giioma;
                                                                                                          familial
                                                                                                                                                                                                                                                                                                                                                                                                                                      ~
```

diseases such

Schistosoma

male

```
ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
      밁
                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        222222
222223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                             Region
                                                                                                                                                                    Tumour antigen breast cancer;
                                                                                                                                                                                                          Tumour antigen derived
                                                                                                                                                                                                                                     09-NOV-1999
                                                                                                                                                                                                                                                              AAY06671;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              infection Spinocerebellar ataxia, Plasmodium falciparum parasitaemia, Corneal dystrophy-Greenouw type I, Corneal dystrophy-Lattice type I and Reis-Bucklers corneal dystrophy This sequence represents FCTR5a, a human complement ClR component precursor.
      Domain
                                                     Region
                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                     AAY06671 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                Domain
                                                                                                        Domain
                                                                                                                                                                                                                                                                                                  18
71
                                                                                                                                                                                                                                                                                                                                                     453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              175
                                                                                                                                                                                                                                                                                                                                                                                                       394
                                                                                                                                                                                                                                                                                                                                                                                                                                                          337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                    TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE 254
                                                                                                                                                                                                                                                                                                                                                                            GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                   LPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGDSGSLYVVWDNHAHHWVA
                                                                                                                                                                                                                                                                                                                                                                                                                            IPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAHTIYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --------NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFVGSD 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        487 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                derived gene-15; TADG-15;
                                                                                                                                                                   ovary cancer;
                                                                               /note=
55..21
453..602
/note= "ligand-binding repeat (class
                                      /note= "CUB repeat"
                                                                                                                   Location/Qualifiers
                                                                  /note-
                                                                                                                                                                                                                                                                                      Protein;
                                                                             213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13.1%;
27.4%;
                                                                "transmembrane
                                                                                        "cytoplasmic domain"
                                                                                                                                                                                                          gene-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74;
                                                                                                                                                                                                                                                                                        855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 491.5; DB Pred. No. 1.5e-21
                                                                                                                                                                   carcinoma; diagnosis
                                                                                                                                                                                                          (TADG-15)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                      A
                                                                 domain"
                                                                                                                                                                                                                                                                                                                                                     484
                                                                                                                                                                                                                                                                                                                                                                            684
                                                                                                                                                                               serine protease;
                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                A motif)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                    452
                                                                                                                                                                                                                                                                                                                                                                                                                              649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       366
                                                                                                                                                                                                                                                                                                                                                                                                                                                       393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20;
```

```
Š
                                        В
                                                              δÃ
                                                                                           망
                                                                                                                  δõ
                                                                                                                                            Вþ
                                                                                                                                                                   δÃ
                                                                                                                                                                                                В
                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 186
                                                                                                                                                                                                                                                                                                                                      The present sequence represents a novel human extracellular serine protease, termed tumour antigen derived gene-15 protein (see AAY06571), that is overexpressed in breast and ovarian carcinomas. The TADG-15 gene (see AAX87815) can be used as a diagnostic and therapeutic target in ovarian carcinoma and other carcinomas including breast, prostate, lung and colon. The ligand binding domains of TADG-15 may be valuable in the uptake of specific molecules into tumour cells. The invention also provides: a vector that is capable of expressing DNA encoding TADG-15 protein; host cells selected from bacterial cells (especially Escherichia coli), mammalian cells, plant cells and insect cells; and a method of detecting expression of TADG-15 protein using a hybridisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O'Brien
                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-527418/44.
N-PSDB; AAX87815.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cleavage-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9942120-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYAR-) UNIV ARKANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
               261
                                        357
                                                                                           340
                                                                                                                     142
                                                                                                                                             287
                                                                                                                                                                                                 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      new extracellular serine protease
                                                                                                                                                                      85
                                                                                                                                                                                                                          29
KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY
                                                              PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                            PHALVQLCG----
                                                                                                                                                                                               RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
                                                                                                                                                                                                                       RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                      PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                  CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                     --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŢJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fig 10; 71pp;
                                                                                                                                                                                                                                                                                                      855
                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tanimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "As..
302..304
...te= "Asn is P
                                                                                                                                                                                                                                                                                                      AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0027337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US03436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481..483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "catalytic 109..111
                                                                                                                                           -TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                                                             13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "conserved
                                                                                                                                                                                                                                                90;
                                                                                                                                                                                                                                                             Score 490; DB 20;
Pred. No. 3.3e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-glycosylated'
                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDE motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SDE motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SDE motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDE motif"
                                                                                       for diagnosis of neoplastic
                                                                                                                                                                                                                                                 270;
                                                                                                                                                                                                                                                                           Length 855;
                                                                                                                                                                                                                                                  Indels 184;
                                                                                                                                                                                                                                                 Gaps
                                       411
                                                                 260
                                                                                          356
                                                                                                                  201
                                                                                                                                                                     141
                                                                                                                                                                                                                        84
```

31;

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ДЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δδ
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                             Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 19
AAE06930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δð
                                                              18-FEB-2000; 2000US-0183542; 22-JUN-2000; 2000US-0213124, 26-JUL-2000; 2000US-0220970, 08-SEP-2000; 2000US-0657986, 22-SEP-2000; 2000US-0234840.
                                                                                                                                03-FEB-2000; 2000US-0179982
                                                                                                                                                                                                              WO200157194-A2
                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                           Human; transmembrane serine protease; membrane-type serine protease; MTSP; protease domain; neoplastic disease; tumour; cancer; cytostati
                                                                                                                                                                                                                                                                                                                                                                                Human membrane-type serine protease (MTSP) 1.
                                                                                                                                                           02-FEB-2001; 2001WO-US03471
                                                                                                                                                                                                                                                                                                                                                                                                           16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                       AAE06930;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAE06930 standard;
                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                   lung carcinoma; colon matriptase.
                                      (CORV-) CORVAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RLPLFRDWIK 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RSAPGVQERRLKRIISH-------PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACSIV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----GQFTCRTGRC
            EL,
            Ong
                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                       INT INC
                                                                                                                                                                                                                                                  Location/Qualifiers 615..855
             EO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein;
                                                                                                                                                                                                                                                                                                                                                                                                          entry)
             Yeh
                                                                                                                                                                                                                                                                                                                               adenocarcinoma; ovarian carcinoma; gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                                                                                     Protease_domain
             ب
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 855
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ą
                                                                                                                                                                                                                                                                                                                                             cytostatic;
                                                                                                                                                                                                                                                                                                                              therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                574
```

```
Qγ
                                                                                                                                        В
                                                                                                                                                                        QΥ
                                                                                                                                                                                                             В
                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumours or cancers such as lung carcinoma, colon adenocarcinoma and ovarian carcinoma, in diagnostics and in hybridisation assays. MTSP is useful as a diagnostic marker for tumour development, growth and/or progression and as immunogens to generate antibodies that specifically bind to it. MTSP DNA is useful in a yeast two-hybrid system and in gene therapy. The present sequence is human MTSP1 protein (also called
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to transmembrane serine proteases and their corresponding nucleotides and the protease domain of a type-II membrane-type serine protease (MTSP). MTSP is useful for identifying compounds that modulate or inhibits its proteolytic activity and for formulating a medicament for treating neoplastic disease. MTSP and its corresponding nucleotides are useful in preventing or treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 12; Page 195-197; 256pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel single chain polypeptide comprising protease domain membrane type serine protease or its catalytically active
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-488877/53.
N-PSDB; AAD13113.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                matriptase)
731
                                                                     684
                                                                                                                                        624
                                                                                                                                                                            454
                                                                                                                                                                                                             575
                                                                                                                                                                                                                                               397
                                                                                                                                                                                                                                                                                  522
                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                   465
                                                                                                                                                                                                                                                                                                                                                                                      319
                                                                                                                                                                                                                                                                                                                                                                                                                        412
                                                                                                                                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                              CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                       GEWPWQVSLHALGQGHTCGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                           LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                    ACSIV---
                                                                                                                                                                                                                                                                                                                                                                                                                                          KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ--
                                                                                                                                                                        EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                  GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                   IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                      ILK-----DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                        ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP------GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK-----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                     RSAPGVQERRLKRIISH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             treating and preventing cancer and tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 490; DB 22;
Pred. No. 3.3e-21;
0; Mismatches 270;
                                                                                                                                                                                                                                                                                                                 -DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                     PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of type-II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               portion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                            491
                                                                                                                                                                                                             623
                                                                                                                                                                                                                                               453
                                                                                                                                                                                                                                                                                                                 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                     730
                                                                                                                                          683
                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                     521
                                                                                                                                                                                                                                                                                                                                                                                                                      464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31;
```

```
RESULT 20
AAB98500
                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                           Matches 186;
                                                                                                                                                                                                                                                                                                                  The present sequence represents human tumour antigen-derived gene 15 TADG-15) protein. TADG-15 is an extracellular serine protease. It was cound that TADG-15 is over-expressed in ovarian tumours. TADG-15 protein or its fragments of 9-20 residues that lack TADG-15 protease activity are useful for vaccinating an individual against TADG-15, having, suspected of having or at risk of getting cancer. Furthermore, the TADG-15 gene can be used as a diagnostic or therapeutic target in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15 protein overexpressed in carcinomas and DNA encoding it, for diagnosis, treatment, prevention of cancer, particularly breast, ovarian cancer
                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 11; Fig 2; 130pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O'Brien TJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200129056-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel extracellular serine protease, termed tumor antigen-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAH23601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYAR-) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB98500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB98500 standard;
                                     340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
      202
                                                                                                  287
                                                                                                                                                             227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            umour antigen-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uman;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                 85
                                                                                                                                                                                            29
   PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                        RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                       C-----
                                                               CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY 201
                                                                                              PHALVQLCG----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                            --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                         RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-381031/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RLPLFRDWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TADG-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TADG-15;
                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                       855 AA;
                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tanimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ARKANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000WO-US29095.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0421213.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cytostatic; vaccine; ovarian tumour; cancer; derived gene 15; extracellular serine proteas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                        13.0%;
25.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ξ
                                                                                                                                                                                                                           90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         855
                                                                                                                                                                                                                        Score 490; DB 22;
Pred. No. 3.3e-21;
0; Mismatches 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                  ------GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                       Length 855;
                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease
                                                                                                                                                                                                                        184;
                                                                                                                                                                                                                      Gaps
                                                                                              339
                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                670
                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                        31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 21
AAB19551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                              Matriptase; serine protease; human; breast cancer; pre-malig
actinic keratosis; leukoplakia; Barrett's epithelium;
columnar metaplasia; ulcerative colitis; bowenoid papulosis;
                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                                                                  adenomatous colorectal polyp; Qyerat erythroplasia;
vulvar intraepithelial neoplasia; tumour; metastasis;
                Region
                                               Region
                                                                                             Region
                                                                                                                                           Region
                                                                                                                                                                          Protein
                                                                                                                                                                                                                                                                                                                                                                                Human matriptase (truncated
                                                                                                                                                                                                                                                                                                                                                                                                               22-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB19551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB19551 standard; Protein;
                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RLPLFRDWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGTVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LNGLCLSKGNPECDGKEDC-SDG-----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       680
                280..314
/note= "LDL-receptor type region"
                                                                                                                                           /label=
42..155
                                                                                             168..268
 /note-
                                                                                                                                                                          /label= Signal_peptide
32..683
                                                                                                                                                                                                                    Location/Qualifiers
                                                                            /note=
                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
"LDL-receptor type region"
                                                                                                        "complement subcomponent region"
                                                            "complement subcomponent 1r region"
                                                                                                                                                         Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           683 AA
                                                                                                                                                                                                                                                                                                                                                                              form).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                          ŀ
                                                                            and
                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                             pre-malignancy;
                                                                            18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GOFTCRTGRC
                                                                                                                          18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --- HD---
                                                                            (Clr/s)
                                                                                                                          (Clr/s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   782
```

O X C X C X C X C C X C C X C C X C C X C X C X C C X C C X C C X C C X C C X C C X C C X C C X C C X C C X C C X C X C C X C

BXGXAXU

맑 Ş 밁 Ş

SSSSS

δÃ В QΥ g Š В Ş

```
TT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disulfide-bond
Disulfide-bond
                                                                                                                                                                                                             HAI-1) to form SDS-stable complexes. In breast cancer cells, matriptase is present mainly as the uncomplexed form. Only the complexed matriptase in detected in human milk. The invention is
                                                                      treated by administering an inhibitor of matriptase, especially a Bowman-Birk inhibitor. The pre-malignant condition is atypical ductal hyperplasia of the breast, actinic keratosis, leukoplakia.
                                                                                                                 object is to inhibit tumour onset, tumour growth and metastasis Malignancies and pre-malignant conditions characterised by expression of the zymogen or activated form of matriptase are
                                                                                                                                                                complexed matriptase in detected in human milk. The invention is directed to a method of detecting a malignancy or a pre-malignant lesion in breast or other tissue by detecting the presence of single- or 2-chain forms of matriptase in the tissue. The
                                                                                                                                                                                                                                        form of matriptase is a single-chain protein. The active 2-chain strongly interacts with fragments of a Kunitz-type serine protease inhibitor (hepatocyte growth factor activator inhibitor HAI-1) to form SDS-stable complexes. In breast cancer cells,
                            adenomatous colorectal polyps, erythroplasia of the Queyrat, Bowen's disease, bowenoid papulosis, vulvar intraepithelial
                                                                                                                                                                                                                                                                                                  amino acids. Either form can be produced transfected cells using a claimed method.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Treating malignancies, premalignant and pathologic conditions subject, comprises administering matriptase modulating agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cleavage-site
                                                        Barrett's epithelium of the esophagus, ulcerative colitis,
                                                                                                                                                                                                                                                                                                                atriptase, a trypsin-like protease, as deduced from cDNA (see AA88492) obtained from human breast cancer cell cDNA by RT-PCR. The full-length form (see AAB19552) has an additional 172 N-terminal ananno acids. Either form can be produced in transformed or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAA88492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GEOU ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200053232-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                               The present sequence is that of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-594268/56
                                                                                                                                                                                                                                                                                                                                                                                                             Fig
                 or dysplatic changes to the cervix. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lin C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GEORGETOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000WO-US06111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9905-0124006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 469..485
604..618
629..658
442..446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
432..68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "N-glycosylated" 313
                                                                                                                                                                                                                                                                                                                                                                                                             116pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77..79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "forms catalytic Asp-539"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "N-glycosylated"
484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "RGD motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   394..430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= Catalytic_domain
 ior
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . 683
 in vivo or in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "forms catalytic
Ser-633"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "forms catalytic
Ser-633"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "LDL-receptor type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "LDL-receptor type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "conserved
                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proteolytic activation
vitro diagnosis of malignancy
                                                                                                                                                                                                                                                                                                                                                                 truncated form of human , as deduced from cDNA (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   triad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               triad with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       triad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Enyedy
                                                                                                                                                                                                                                                                                                       The zymogen (inactive)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       with His-484
                                                                                                                                                                                                                                                                                         The active 2-chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   His-484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Asp-539
               invention also
                                                                                                                                                                                                                                                           inhibitor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                       in
                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
```

AAY90284 ID AAY

AAY90284 standard;

Protein;

762

AAY90284;

RESULT 22

XXX DXXXX

24 - OCT - 2000

(first entry)

Human; peptidase; cell proliferative disorder; arteriosclerosis;

Human peptidase, HPEP-1 protein sequence

```
SSSS
                                                                                δÃ
                                                                                                                                         Qγ
                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
В
                         Ş
                                                        밁
                                                                                                               Вþ
                                                                                                                                                                       밁
                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                     Вр
                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or pre-malignant lesion, and methods of identifying matriptase modulators, including activators and inhibitors.
669
                            671
                                                        611
                                                                                                               559
                                                                                                                                          552
                                                                                                                                                                       512
                                                                                                                                                                                                   492
                                                                                                                                                                                                                              452
                                                                                                                                                                                                                                                                                      403
                                                                                                                                                                                                                                                                                                                 397
                                                                                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                     293
                                                                                                                                                                                                                                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115
                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                                                                         ACSIV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHALVQLCG----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
RLPLFRDWIK 678
                            KVINYIPWIE
                                                        QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                         CLPRKEAESEMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                       RSAPGVQERRLKRIISH--------PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                 ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                              GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                      GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK------HD---
                                                                                                                                                                                                                                                                                     LNGLCLSKGNPECDGKEDC-SDG-----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                            GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT
                                                                                                                                                                                                                                                                                                                                                                                                   IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
                                                                                                              CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ
                                                                                                                                                                                                                                                                                                                EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP------GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGHYPPNIDCTWNIEVPNNQHVKVRFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 25.
86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          683 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                              -----DSFSIFCETGYELLQGHLPLKSFTAVCQK----DGSWDRPMP
                            680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13
25
                                                                                                                                                                                                                                                                                                                                                                         ------DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              , 488;
''n 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                              ----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       318
                                                                                     670
                                                                                                                                                                                                   551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          114
                                                                                                                                            610
                                                                                                                                                                                                                               511
                                                                                                                                                                                                                                                          491
                                                                                                                                                                                                                                                                                      451
                                                                                                                                                                                                                                                                                                                   453
                                                                                                                                                                                                                                                                                                                                              402
                                                                                                                                                                                                                                                                                                                                                                                                     349
                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84
                                                                                                                 610
                                                                                                                                                                                                                                                                                                                                                                          396
                                                                                                                                                                                                                                                                                                                                                                                                                                                              292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31;
```

```
Ş
                                         B
                                                               δÃ
                                                                                          DЪ
                                                                                                                  Qy
                                                                                                                                              В
                                                                                                                                                                  Q
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-JAN-1999;
03-MAY-1999;
27-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bandman
Yue H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence represents a human peptidase, designated HPEP-1. The invention relates to 18 human peptidases designated HPEP-1 to HPEP-18, respectively. The peptidases can be used for treating a disease or condition associated with decreased expression or over expression of functional human peptidases. The diseases that can be diagnosed,
                                                                                                                                                                                                                                                                                                                                                                                        Crohn's disease, asthma, atherosclerosis, Grave's disease, multiple sclerosis, and scleroderma), infections, and metabolic disorders (such Addison's disease, diabetes, cystic fibrosis, glycogen storage diseases
                                                                                                                                                                                                                                                                                                                                                                                                                               prevented and treated include cell proliferative disorders (such as arteriosclerosis, psoriasis, myelofibrosis, and cancers), autoimmune/inflammatory disorders (such as AIDS, anaemia, allergies,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       psoriasis; myelofibrosis; cancer; autoimmune disorder; Crohn's disease; inflammatory disorder; AIDS; anaemia; allergy; asthma; atherosclerosis; Grave's disease; multiple sclerosis; scleroderma; infection; diabetes; metabolic disorder; Addison's disease; cystic fibrosis; diagnosis;
                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-JAN-2000; 2000WO-US00641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200042201-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             glycogen storage disease; obesity; therapy; HPEP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (INCY-) INCYTE PHARM INC
                                                                                                                                                                                                                                                   134
                                                                                                                                                                                                                                                                                                     thes
                                           319
                                                                                                                                                                         142
                                                                   261
                                                                                             264
                                                                                                                                                                                                 194
                                                                                                                                                                                                                           85
                                                                                                                                                                                                                                                                           29
                                                                                                                                                                                                                                                                                                                 Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          isolated polypeptide for diagnosis, prevention and treall proliferative, autoimmune/ inflammatory and metabolic mprises a sequence encoding a human peptidase -
                                                                                                                                                                                                                                                                                                                                                                                  obesity).
                                                                                         PGHYPPNIDCTWNIEVPNNQHVKVRFKFFYLLEPGVPAGTCPKDYVEINGEK-----YCG
                                                                                                                 PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                     CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                              PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                       --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                                                                                                                RETTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME
                                                                                                                                                                                                                                                                         RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000-482832/42
)B; AAA37657.
                 ILK --
                                        ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----
                                                               KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                                                                                                                                                                      186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ę,
                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DAM;
                                                                                                                                                                                                                                                                                                                                                        762
                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91-93; 131pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0172247.
99US-0132253.
99US-0136653.
                                                                                                                                                                                                                                                                                                                                                        Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JĽ,
                                                                                                                                                                                                                                                                                                                 13.0%;
                -DSFSIFCETGYELLQGHLPLKSFTAVCQK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tang
                                                                                                                                                                                                                                                                                                     90;
                                                                                                                                                                                                                                                                                                  Score 488; DB 21;
Pred. No. 3.8e-21;
0; Mismatches 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Azimzai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baughn
                                                                                                                                           GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                           Length 762;
                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  МR,
                                        -GOFTCRTGRC
              DGSWDRPMP
                                                                                                                                                                                                                                                                                                    184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ס
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of.
                                                                318
                                                                                                                                           263
                                                                                                                                                                                                                                                  193
                                                                                         318
                                                                                                                  260
                                                                                                                                                                   203
                                                                                                                                                                                              246
                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                                                                                                                                                        as
                                                                                                                                                                                                                                                                                                    31;
  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                   Key
Region
                                                                                                                                                                                                                                                                                                                                                Matriptase; serine protease; human; breast cancer; pre-maligna actinic keratosis; leukoplakia; Barrett; epithelium; columnar metaplasia; ulcerative colitis; bowenoid papulosis; adenomatous colorectal polyp; Qyerat erythroplasia; vulvar intraepithelial neoplasia; tumour; metastasis; therapy.
Cleavage-site
                                                   Modified-site
                                                                                                                                                      Region
                                                                                                                                                                               Region
                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB19552 standard; Protein;
                                                                           Modified-site
                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB19552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RLPLFRDWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RSAPGVQERRLKRIISH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LNGLCLSKGNPECDGKEDC-SDG-----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EETFYTMKVN---DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    680
                        /note= "
249..251
                                                                                                     /note=
                                                                                                                                                       /note= "I
                                                                                                                                                                                                                                                                                   Location/Qualifiers
214..327
                                                    485
                                                                                                                                                                                 487.
                                                                                                                                                                                                         452..486
                                                                                                                                                                                                                                                                       /note-
                                                              /note-
                                                                                                                                         /note=
                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                340..440
                                                                                       label=
                                                                                                                             .602
                                                                                                                                                                                  . 523
                                   "N-glycosylated"
                                                              "N-glycosylated"
                                                                                                                                                                                          "LDL-receptor
             "RGD motif"
                                                                                                              "LDL-receptor type
                                                                                                                                                                "LDL-receptor
                                                                                                                                        "LDL-receptor
                                                                                                                                                                                                                                                                       "complement subcomponent
                                                                                                                                                                                                                                "complement subcomponent
                                                                                      Catalytic_domain
                                                                                                                                                                                                                    region"
                                                                                                                                                                                                                                                          region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            À
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                type
                                                                                                                                         type
                                                                                                                                                                                          туре
                                                                                                                region
                                                                                                                                       region'
                                                                                                                                                                region
                                                                                                                                                                                          region
                                                                                                                                                                                                                                                                       ŀ
                                                                                                                                                                                                                                   1r
                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                    pre-malignancy;
                                                                                                                                                                                                                                                                       1s
                                                                                                                                                                                                                                 1s
                                                                                                                                                                                                                                 (C1r/s)
                                                                                                                                                                                                                                                                       (C1r/s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ED---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             491
```

```
δÃ
                                                                                                                            DЬ
                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                    Qy
  QΥ
                                         망
                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                   Matches 186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     object is to inhibit tumour onset, tumour growth and metastasis. Malignancies and pre-malignant conditions characterised by expression of the zymogen or activated form of matriptase are treated by administering an inhibitor of matriptase, especially a Bowman-Birk inhibitor. The pre-malignant condition is atypical ductal hyperplasia of the breast, actinic keratosis, leukoplakia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transfected cells using a claimed method. The zymogen (inactive) form of matriptase is a single-chain protein. The active 2-chain form strongly interacts with fragments of a Kunitz-type serine protease inhibitor (hepatocyte growth factor activator inhibitor, HAI-1) to form SDS-stable complexes. In breast cancer cells,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complexed matriptase in detected in human milk. The invention is directed to a method of detecting a malignancy or a pre-malignant lesion in breast or other tissue by detecting the presence of single- or 2-chain forms of matriptase in the tissue. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence is that of the full-length form of human matriptase, a trypsin-like protease. This has an additional 172 amino acids compared with the truncated form of matriptase given in AAB19551. Either form can be produced in transformed or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Treating malignancies, premalignant and pathologic conditions in subject, comprises administering matriptase modulating agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       provides methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           neoplasia or dysplatic changes to the cervix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bowen's disease,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adenomatous colorectal polyps, erythroplasia of the Queyrat,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Barrett's epithelium of the esophagus, ulcerative colitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       matriptase is present mainly as the uncomplexed form.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAA88493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dickson RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GEOU ) UNIV GEORGETOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-MAR-2000; 2000WO-US06111.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200053232-A1
                                           357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nodulators,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    flaim 14; Fig 16; 116pp;
                                                                                                                                                                      142 CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY 201
                                                                                                                                                                                                                                                                                                  227
                                                                                202 PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG 260
                                                                                                                                                                                                             287 PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS 339
                                                                                                                                                                                                                                                    85 -- VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE 141
                                                                                                                                                                                                                                                                                                                                       29 RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK--- 84
                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pre-malignant lesion, and methods of identifying matriptase dulators, including activators and inhibitors.
KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                           PGHYPPNIDCTWNIEVPNNQHVKVRFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                  RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-594268/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      855 AA;
                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lin C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0124006.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "conserved proteolytic activation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bowenoid papulosis, vulvar intraepithelia
                                                                                                                                                                                                                                                                                                                                                                                 13.0%; Score 488; DB 21; 25.5%; Pred. No. 4.3e-21; tive 90; Mismatches 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Johnson M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Enyedy I;
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 855;
                                                                                                                            GGRLRKAQGTFNSPYY 356
                                                                                                                                                                                                                                                                                                                                                                                 Indels 184; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cells,
Only the
                                                                                                                                                                                                                                                                                                                                                                                 31;
```

င္ပ

novel human membrane-type serine protease MT-SP1. Increased expression

of

```
RESULT 2:
ABB11428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3333×3
XEXEXEX
                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 186;
           Human membrane-type Ser kinase homologue,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           this protein is associated with cancer, and so the sequences can be used in cancer diagnosis and the identification of treatments. The present
                                            11-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence
                                                                                                      ABB11428 standard; peptide;
                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                           492
                                                                                                                                                                                                                                                                                                                                                                                                                                          624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        287
                                                                                                                                                                                                                                                                                                                                                                             684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                     RLPLFRDWIK 850
                                                                                                                                                                                                                 KVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                      ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PGHYPPNIDCTWNIEVPNNQHYKVRFKFFYLLEPGVPAGTCPKDYVEINGEK-----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                                                                                                                                                                                                                QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                              SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                           CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                         CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                          RSAPGVQERRLKRIISH-------PFFNDFTFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                                                                                                                                                                                                                                                       GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACSIV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --VLATICGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  855 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the MT-SP1 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13.0%; Score 488; DB 22; 25.5%; Pred. No. 4.3e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90;
                                                                                                       851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
           SEQ ID NO:1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GGRLRKAQGTFNSPYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                          610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   453
                                                                                                                                                                                                                                                                              670
                                                                                                                                                                                                                                                                                                                                                                                                                                       683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31;
```

```
haematopoiesis regulation; tissue growth; immunomodulator; activin; inhibin; chemotaxis; chemokinesis; thrombolysis; oncogenesis; proliferation; metastasis; cancer; tumour; haematopoietic disorder; myeloid cell disorder; lymphoid cell disorder; asthma; arthritis; chronic inflammatory condition; proliferative retinopathy; atherosclerosis; coronary heart disease; arterial ischaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bone disorder; osteoporosis; vascular growth disorder; tissue regeneration; wound healing; infection; immune disorder; cell culture; drug screening; gene therapp; antiinflammatory; antiasthmatic; antiarthritic; haemostatic; antiarteriosclerotic; cytostatic; osteopathic; vasotropic; cardiant; virucide; antibac
                                                                                                   Tang YT,
                                                                                                                                                                                                                                  03-FEB-2000; 2000US-0496914
27-APR-2000; 2000US-0560875
                                                                                                                                                                                                                                                                  03-FEB-2000;
                                                                                                                                                                                                                                                                                                                                         05-FEB-2001; 2001WO-US03800
                                                                                                                                                                                                                                                                                                                                                                                                            09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200157188-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antifungal; vulnerary; antiulcer.
                                                                                                                                                                  (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; cytokine; cell proliferation; cell differentiation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            domo sapiens
                               2001-457740/49
ABA08672
                                                                                                                                                                      HYSEQ INC
                                                                                               Liu C,
                                                                                                   Drmanac
                                                                                                   ŖΤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  virucide; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growth factor;
```

Human proteins and DNA encoding sequences useful for preventing, treating or ameliorating a medical condition in a mammalian subject e.g. arthritis and cancer -

Claim 20; Page 188; 1963pp; English.

Sequences ABB10981-ABB12330 represent 1350 novel human polypeptides, and sequences ABA08225-ABA09574 represent nucleic acids encoding them. The convention also relates to vectors and recombinant host cells comprising a nucleotide of the invention, methods of producing the novel polypeptides, antibodies against the polypeptides of identifying compounds which bind to polypeptides of the invention have homology to known proteins, thereby giving an insight into their probable biological activities, and hence potential therapeutic applications. The polypeptides of the invention have homology to known proteins, thereby giving an insight into their probable biological activities, and hence potential therapeutic applications. The polypeptides of the invention may differentiation activities; iscluding cytokine, cell proliferation or cell differentiation activities; stem cell growth factor activities; receptory activity; tissue growth activity; immunomodulatory activity; activin- or inhibin-related activities; chaematopyleic activities; receptor or ligand activities; or may be the invention are useful for preventing, treating or metastasis. Depending on their biological activities, polypeptides and nucleotides of the invention are useful for preventing, treating or amellorating medical conditions, e.g., by protein or gene therapy. Such conditions include cancers, haematopoletic disorders (e.g., myeloid or lymphold cell conditions, e.g., asthma or arthritis), or conditions (e.g., asthma or arthritis), protein or gene therapy. Such conditions and abnormal vascular growth. Polypeptides involved with tissue regeneration and repair (or nucleic acids encoding them) may be used to promote wound healing (e.g., of burns, incisions and ulcers), while those with bacterial and fungal infections in addition to immune disorders:

CC polypeptides with growth factor activity may be used in cell cultures to promote cell growth. Polypeptides may be used to promote wound to a converse to a converse to a converse to a converse to a converse

```
밁
                                                                                                                   Qy
                                                                                                                                                               Дb
                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSSS
Search completed: January 23, 2003, 22:17:21 Job time: 89 secs
                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 12.9%; Score 486; DB 22; Best Local Similarity 25.5%; Pred. No. 5.6e-21; Matches 186; Conservative 88; Mismatches 272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            screening techniques. The present sequence represents a novel human polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                      837 RLPLFRDWIK 846
                                                                                                                                                                 779
                                                                                                                                                                                  611 SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT 670
                                                                                                                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             336 C------GGRLRKAQGTENSPYY 352
                                                                                                                                                                                                                                                                                   552 CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG 610
                                                                                                                                                                                                                                                                                                                           680 RSAPGVQERRLKRIISH-------PFFNDFTFDYDIALLELEKPAEYSSMVRPI 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    571 LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 ACSIV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461 IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSLNDCGDNSDEQ--- 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202 PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142 CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             283 PHALVQLCG-----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        223 RETTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGRHLVTVYNTLSPME 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83 AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29 RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLEL-----SHLCEYDFVKLSSG 82
                                                                                                                     KVINYIPWIE 680
                                                                                                                                                             QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT 836
                                                                                                                                                                                                                                                                                                                                                                ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EETFYTMKVN---DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP------GQFTCRTGRC 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PGHYPPNIDCTWNIEVPNNQHVKVRFKFFYLLEPGVPAGTCPKDYVEINGEK-----YCG
                                                                                                                                                                                                                                         CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ILK------DSFSIFCETGYELLOGHLPLKSFTAVCQK-----DGSWDRPMP 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        851 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 184; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 407
                                                                                                                                                                                                                                             778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31;
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hed:
                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                     and is derived by analysis of the total score distribution.
      3758
3758
1531
1531
1406.5
1406.5
1238
1238
1238
1238
1238
493.5
681.5
681.5
681.5
493.5
                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                         Published_Applications_AA:*

1: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

12: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US00_NEW_PUB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/US00_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                               Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BLOSUM62
Gapop 10.0 , Gapext 0.5
       US-09-874-198-2
3758
1 MRLLTLLGLLCGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122226 seqs, 20178551 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              January 23, 2003, 22:20:01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MRLLTLLGLLCGSVATPLGP......GVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version 5.1.3 Compugen Ltd.
                                                                                                                                                                                                                                                                                                 Length DB
      001100010001001100
               10 US-09-874-198-2
10 US-09-874-238-2
10 US-09-874-198-6
10 US-09-874-198-6
10 US-09-874-198-7
10 US-09-874-198-7
10 US-09-874-238-7
10 US-09-925-301-1024
10 US-09-925-302-612
10 US-09-925-302-612
10 US-09-808-602-95
10 US-09-808-602-95
10 US-09-808-602-17
10 US-09-808-602-17
10 US-09-808-602-17
10 US-09-808-602-17
10 US-09-808-602-17
                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                 IJ
                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Search time 15 Seconds
(without alignments)
922.832 Million cell updates/sec
Sequence 2, Appli
Sequence 6, Appli
Sequence 6, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 7024, Appli
Sequence 1024, Appli
Sequence 8, Appli
Sequence 812, Appli
Sequence 612, Appli
Sequence 613, Appli
Sequence 614, Appli
Sequence 95, Appli
Sequence 21, Appli
Sequence 22, Appli
Sequence 21, Appli
Sequence 21, Appli
                                                                                                                                                                                                                                                                                     Description
```

335 355 355 355 355 355 355 355 355 355	20 20 20 20 20 20 20 20 20 20 20 20 20 2
00000000000000000000000000000000000000	46. 44. 44. 44. 44. 41. 41. 41. 41. 41. 41
100.66666777	00000000
1 013 3 4 5 7 0 1 2 0 1	0000000V4840V4VVVV
11110010000000000000000000000000000000	001100010000000000000000000000000000000
US-09-990-444-231 US-09-990-444-231 US-09-991-181-231 US-09-991-181-231 US-09-991-181-231 US-09-991-181-231 US-09-991-653-231 US-10-004-551-4 US-10-174-590-170 US-10-174-590-170 US-10-174-590-170 US-10-174-590-170 US-10-175-737-170 US-10-175-737-170 US-09-989-723-231 US-09-989-727-23231 US-09-989-731-231 US-09-991-073-231 US-09-991-775-77-6 US-09-888-615-08 US-09-885-385C-2 US-09-885-385C-2 US-09-885-385C-2	US-09-981-123-2 S-09-978-295A-1 S-09-978-192A-1 S-09-978-192A-1 S-09-998-8189-16 US-09-988-615-1 US-09-888-615-1 US-09-888-615-1 US-09-888-615-1 US-09-977-577-7 US-09-977-577-3 US-09-977-577-3 S-09-977-577-3 S-09-989-293A-2 S-09-989-293A-2 S-09-989-293A-2 S-09-989-293A-2
sequence 231, App Sequence 170, App Sequence 170, App Sequence 271, App Sequence 371, App Sequence 371	yuence 2, Appuence 169, Apuence 169, Apuence 169, Apuence 169, Apuence 119, Apuence 119, Apuence 17, Appl quence 2, Appl quence 2, Appl quence 3, Appl uence 4, Appl uence

## ALIGNMENTS

```
RESULT 1

US-09-874-198-2

; Sequence 2, Application US/09874198

; Patent No. US20020082208A1

; GENERAL INFORMATION:

; APPLICANT: Jensenius, Jens Chr.

; APPLICANT: Thiel, Steffen

; TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING ENZYME, AND

; TITLE OF INVENTION: USES FOR IT

; FILE REFERENCE: 09011-002002

; CURRENT APPLICATION NUMBER: US/09/874,198

; CURRENT FILING DATE: 2001-06-04
```

```
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1997-04-03
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FASTSEQ for Windows Version 4.
SEQ ID NO 2
LENGTH: 686
TYPE: PRT
                          US-09-874-238-2

US-09-874-238-2

; Sequence 2, Application US/09874238

; Patent No. US20020082209Al

; GENERAL INFORMATION:
                                                                                                                                 В
                                                                                            B
                                                                                                          δõ
                                                                                                                                               Qy
                                                                                                                                                                     рь
                                                                                                                                                                                   Q
                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                              Q.
                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: HOMO
US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
APPLICANT: Jensenius, Jens
APPLICANT: Thiel, Steffen
TITLE OF INVENTION: MASP-2
                                                                                            661
                                                                                                              661
                                                                                                                                                                                                          481
                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                421
                                                                                                                                  601
                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                         AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                  AAHAYYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                     YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                    KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                    YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; ilarity 100.0%; Conservative 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                   Chr.
COMPLEMENT-FIXING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 3758; DB 10;
Pred. No. 8.2e-276;
; Mismatches 0;
                                                                                                              989
                                                                                            686
ENZYME,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                   660
                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                 660
                                                                                                                                                                                       600
                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
CURRENT APPLICATION NUMBER: US/09/874,2
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR TILING DATE: 1997-04-03
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSEQ for Windows Version 4
SEO ID NO 2
LENGTH: 686
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-874-238-2
                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                    δÃ
                               DЪ
                                            δÃ
                                                             B
                                                                            δõ
                                                                                            B
                                                                                                         Qy
                                                                                                                          Вр
                                                                                                                                        QΥ
                                                                                                                                                        B
                                                                                                                                                                                        В
                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                      D
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                                                                                                                                Query Match 100.
Best Local Similarity 100.
Matches 686; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE R
661
               661
                               601
                                              601
                                                             541
                                                                            541
                                                                                            481
                                                                                                           481
                                                                                                                          421
                                                                                                                                          421
                                                                                                                                                         361
                                                                                                                                                                                        301
                                                                                                                                                                                                       301
                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                         361
                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE: 09011-002003
AYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNC
                                                             AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                          FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                            AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                    FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                               AYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FOR
                                                                                                                                                                                                                                                                                                                                                                                       .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/09/874
                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                                                                                                                                Score 3758; DB 10;
Pred. No. 8.2e-276;
Mismatches 0;
686
                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                   120
                                               660
                                                             600
                                                                            600
                                                                                                           540
                                                                                                                           480
                                                                                                                                          480
                                                                                                                                                         420
                                                                                                                                                                         420
                                                                                                                                                                                        360
                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                            540
                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                      180
```

0;

RESULT 3 US-09-874-198-6

Sequence 6, Application US Patent No. US20020082208A1

```
В
                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                     멍
                                                                                                    δÃ
                                                                                                                                         В
                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
   밁
                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 1997-04-03
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 6
LENGTH: 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Jensenius, Jens Chr.
APPLICANT: Thiel, Steffen
TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING ENZYME, AND
TITLE OF INVENTION: USES FOR IT
FILE REFERENCE: 09011-002002
CURRENT APPLICATION NUMBER: US/09/874,198
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: 60/042,678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
-874-198-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ry Match
                                                                       594
                                                                                                                                                                            541
                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                  427
                                                                                                                                                                                                                                                                                                                     443
                                                                                                                                                                                                                                                                                                                                                                                         386
                                                                                                                                                                                                                                                                                                                                                                                                                           307
                                                                                                                                                                                                                                                                                                                                                                                                                                                              326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLAR---NLMYVDIPIVDHQK 597
                       MNCGEAGQYGVYTKVINYIPWIENI 682
                                                              CQKAY--APLKK-KVTRDMICAGEKEGGKDACSGDSGGPMVTLNRERGQWYLVGTVSWGD
                                                                                                                                   SPVLNAFVMPICLP----EGPQQEGAMVIVSGWG---KQFLQRFPETLMEIEIPIVDHST
                                                                                                                                                                                                                                                                                                                 GRIYGGQKAKPGDFPWQVLIL----GGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRM
                                                                                                                                                                                                                                                                                                                                                                                                                                                       IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PISTQSHSVLILFHSDNSGENRGWRLSYRAAGNE-PELQPPVHGKIEPSQAKYFFKDQVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVA 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKLYFMHFNLESSYLCEYDYVKVETEDQV 67
-DCGKKDRYGVYSYIHHNKDWIQRV 674
                                                                                                  CTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGS 657
                                                                                                                                                                                                         PTLRDSDLLSPSDFKIILGKHWRLRSDENEQHLGVKHTTLHPKYDPNTFENDVALVELLE
                                                                                                                                                                                                                                          GTLK---RLSP------HYTQAWSEAVFIHEGYTHDA-----GFDNDIALIKLNN
                                                                                                                                                                                                                                                                              ARIFNGRPAQKGTTPWIAMLSHLNGQPFCGGSLLGSSWIVTAAHCLHQ-----SLDPKD
                                                                                                                                                                                                                                                                                                                                                  TTYKSEIKYSCQEPYYKMLNNNTGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLM
                                                                                                                                                                                                                                                                                                                                                                                   TTYKAVIQYSCEETFYTM-KVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLS--ARTTG
                                                                                                                                                                                                                                                                                                                                                                                                                      VSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIPTCKIVDCRAPGELEHGLITFSTRNNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPH 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LATFCGRETTDTEQTPGQEVVLSPGSFMSITFRSDFSNEERFTGFDAHYMAVDVDECKER 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40.7%; Score 1531; DB 10; ilarity 42.9%; Pred. No. 8.2e-108; Conservative 128; Mismatches 217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                 1 499
                                                                                                                                                                                                                                                                                                                                                    426
                                                                   650
                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                     442
                                                                                                                                                                                                                                                                                                                                                                                                                      366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             325
                                                                                                                                                                                                                                                                                                                                                                                                                                                         385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               247
```

14;

14;

```
CURRENT APPLICATION NUMBER: US/09/874,238
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1997-04-03
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 6
LENGTH: 679
TYPE: PRI
TYPE: PR
                                                                                                                          Q
                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-874-238-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-874-238-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 6, Application US/09874238 Patent No. US20020082209A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING TITLE OF INVENTION: USES FOR IT FILE REFERENCE: 09011-002003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Jensenius, Jens Chr. APPLICANT: Thiel, Steffen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
658
                                                                  594
                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          427
                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                        500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVA 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ARIFNGRPAQKGTTPWIAMLSHLNGQPFCGGSLLGSSWIVTAAHCLHQ-----SLDPKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GRIYGGQKAKPGDFPWQVLIL---GGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRM 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPH 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKLYFMHFNLESSYLCEYDYVKVETEDQV 67
MNCGEAGQYGYYTKVINYIPWIENI 682
                                                               CQKAY - - APLKK-KVTRDMICAGEKEGGKDACSGDSGGPMVTLNRERGQWYLVGTVSWGD
                                                                                                                          CTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGS 657
                                                                                                                                                                                                SPVLNAFVMPICLP----EGPQQEGAMVIVSGWG----KQFLQRFPETLMEIEIPIVDHST
                                                                                                                                                                                                                                                               KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLAR---NLMYVDIPIVDHQK
                                                                                                                                                                                                                                                                                                                                     PTLRDSDLLSPSDFKIILGKHWRLRSDENEQHLGVKHTTLHPKYDPNTFENDVALVELLE
                                                                                                                                                                                                                                                                                                                                                                                                    GTLK---RLSP-----HYTQAWSEAVFIHEGYTHDA-----GFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VSCDTGYKVLKDNVEMDTFQIECLKDGTWSNKIPTCKIVDCRAPGELEHGLITFSTRNNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PISTQSHSVLILFHSDNSGENRGWRLSYRAAGNE-PELQPPVHGKIEPSQAKYFFKDQVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PKSSECLYTTELEEGFMVNLQFEDIFDIEDHPEVPCPYDYIKIKVGPKVLGPFCGEKAPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRTCRVECSDNLFTQRTGVITSPDFPNPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPY 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LATFCGRETTDTEQTPGQEVVLSPGSFMSITFRSDFSNEERFTGFDAHYMAVDVDECKER 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTYKSEIKYSCQEPYYKMLNNNTGIYTCSAQGVWMNKVLGRSLPTCLPVCGLPKFSRKLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTYKAVIQYSCEETFYTM-KVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLS--ARTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40.7%; Score 1531; DB 10;
42.9%; Pred. No. 8.2e-108;
ative 128; Mismatches 217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENZYME,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                   597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                593
                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306
```

```
20
   밁
                              Qy
                                                                 망
                                                                                                                              DЬ
                                                                                                                                                           δÃ
                                                                                                                                                                                              В
                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-808-602-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens US-09-808-602-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/186,596
PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 94
LENGTH: 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 94, Application U Patent No. US20020155115A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Merman, John L
APPLICANT: Majumder, Kumud
APPLICANT: Mishra, Vishnu
APPLICANT: Mishra, Vishnu
APPLICANT: MacDougall, John
TITLE OF INVENTION: NO. US20020155115A1el Proteins and Nuclec Acids Encoding
FILE REFERENCE: 15966-697 CIP
URRENT APPLICATION NUMBER: US/09/808,602
URRENT FILING DATE: 2001-03-04
FIOR APPLICATION NUMBER: 09/800,198
RIOR FILING DATE: 2001-03-05
RIOR FILING DATE: 2001-03-05
RIOR FILING DATE: 2001-03-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Vernet, APPLICANT: Fernand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                   455
                                                                                                                                355
                                                                                                                                                                                                295
                                                                                                                                                                                                                                                                                                                             175
                                                                                                                                                                                                                                                                                                                                                                                         115 TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                       116 TFRSDYSNEKP-----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY 54
                    TRAGSRESEQGYYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMG
                                                                                                                                                                                         DFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGD
                                                                                                                                                                                                                                                                                                                                          SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -DCGKKDRYGVYSYIHHNKDWIQRV 674
NFPWQVFTNIHGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGHTNVEELMKLG
                                                                                             V-----NDGKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPG
                                                                                                                             TAVCQDDGTWHRAMPRCKIKDCGQPRNLPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQ
                                                                                                                                             TAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK
                                                                                                                                                                                                                              HTGWKIHYTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSF
                                                                                                                                                                                                                                                                                                                         SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                                                                                                                                                                                             KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fernandes, Elma
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Corine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.6%; Score 1412; DB 9;
41.7%; Pred. No. 8.2e-99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09808602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 705;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                            404
                                                                                             454
                                                                 473
                                                                                                                             414
                                                                                                                                                                                                                              344
                                                                                                                                                                                                                                                                                          285
                                                                                                                                                                                                                                                                                                                           234
                                                                                                                                                                                              354
                                                                                                                                                                                                                                                             294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Same
                                                             망
                                                                                          QY
                                                                                                                             밁
                                                                                                                                                         Qy
                                                                                                                                                                                              밁
                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                        ОĀ
                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 6
US-09-874-198-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Homo sapiens US-09-874-198-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7, Application US/09874198 Patent No. US20020082208A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1997-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Jensenius, Jens Chr. APPLICANT: Thiel, Steffen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 688
TYPE: PRT
                                                               305
                                                                                                                             245
                                                                                                                                                                                              185
                                                                                                                                                                                                                              193
                                                                                                                                                                                                                                                             125
                                                                                                                                                                                                                                                                                          138
 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          869
                                                                                                                                                            253
                                                                                                                                                                                                                                                                                                                           65
                                                                                                                                                                                                                                                                                                                                                         83
                                                                                                                                                                                                                                                                                                                                                                                         v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          K 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        680
```

```
Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version SEQ ID NO 7 \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 37.4%; Score 1406.5; DB 10; Best Local Similarity 41.9%; Pred. No. 2.1e-98; Matches 291; Conservative 106; Mismatches 244; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/874,198 CURRENT FILING DATE: 2001-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING TITLE OF INVENTION: USES FOR IT FILE REFERENCE: 09011-002002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 PEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                  LPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKV-----NDGKYVCEADGFW-TSSKG
                                                                                                                                                                                                                             KNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGDSRGWKLRYTTEIIKCPQPKTLDEFTII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHYTQAWSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRT
                                                                                                              QNLQPQYQFRDYFIATCKQGYQLIEGNQVLHSFTAVCQDDGTWHRAMPRCKIKDCGQPRN
                                                                                                                                                                                                                                                                                      EEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPN-GHV
                                                                                                                                                                                                                                                                                                                                           SGYISSLEYPRSYPPDLRCNYSIRVERGLTLHLKFLEPFDIDDHQQVHCPYDQLQIYANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DLDECASRSKSGEEDPQPQCQHLCHNYVGGYFCSCRPGYELQEDRHSCQAECSSELYTEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLLTFHTDFSNEENGTIMFYKGFLAYYQAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP-----FTGFEAFYAAE 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGYRVKLVFQQFDLEPSEGCFYDYVKISAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GLMGYVSGFGVMEEK-IAHDLRFVRLPVANPQAC-----ENWLRGKNRMDVFSQNMFCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCA 619
LPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQTRAGSRESEQGVYTCTAQGIWKNEQKG
                                                                                                                                                                    SPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDD
                                                                                                                                                                                                                                                                                                                                                                                                       SGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NHPIR----RVSVHPDYRQDESYNFEGDIALLELENSVTLGPNLLPICLP--DNDTFYDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENZYME,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                    371
                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                     423
                                                                                                              364
                                                                                                                                                                                                                                                                                      311
                                                                                                                                                                                                                                                                                                                                                 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18;
```

```
Вb
                                 Š
                                                                      В
                                                                                                   δÃ
                                                                                                                                        Вb
                                                                                                                                                                         Ş
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-874-238-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING EN
TITLE OF INVENTION: USES FOR IT
FILE REFERENCE: 09011-002003
CURRENT APPLICATION NUMBER: US/09/874,238
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1997-04-03
NUMBER: 0F SEO ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-238-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows Version SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/09874238 Patent No. US20020082209A1
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
t Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Jensenius, Jens Chr. APPLICANT: Thiel, Steffen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 688
                                                                                                                                                                                                                                                                                                                                                                                                                             ches
                                                                                                                                                                                                                125
                245
                                                                                                                                                                             193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 651 WVATGIVSWG-IGCSRG--YGFYTKVLNYVDWIK 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         424
                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                                                                                                                                                                                      23 PEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                          Ç
                                                                                                                                                                                                           QNLQPQYQFRDYFIATCKQGYQLIEGNQVLHSFTAVCQDDGTWHRAMPRCKIKDCGQPRN
                                                                                   AKVLATICGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP-----FTGFEAFYAAE 137
                                                                KNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGDSRGWKLRYTTEIIKCPQPKTLDEFTII
                                                                                                                                    SGYISSLEYPRSYPPDLRCNYSIRVERGLTLHLKFLEPFDIDDHQQVHCPYDQLQIYANG
                                                                                                                                                           SGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDR
                                                                                                                                                                                                                                            DIDEC--QVAPGE---APTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQR 192
                                                                                                                                                                                                                                                                               KKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLLTFHTDFSNEENGTIMFYKGFLAYYQAV 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DIALLELENSVTLGPNLLPICLP--DNDTFYDLGLMGYVSGFGVMEEK-IAHDLRFVRLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AHTLYPKEHEAQSNASLDVFLGHTNVEELMKLGNHPIR----RVSVHPDYRQDESYNFEG
                                                                                                                                                                                                                                                                                                                                                     PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGYRVKLVFQQFDLEPSEGCFYDYVKISAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VANPQAC-----ENWLRGKNRMDVFSQNMFCAGHPSLKQDACQGDSGGVFAVRDPNTDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IVDHQKCTAAYEKPPYPRGS-----VTANMLCAGLESGGKDSCRGDSGGALVFLDSETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AHAVYEQKHDA---SALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GFDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTA 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMGNFPWQVFTNIHGRGGGALLGDRWILTA
                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 106; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                              37.48;
41.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1406.5; DB 10; Pred. No. 2.1e-98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENZYME,
                                                                                                                                                                                                                                                                                                                                                                                                                           244; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 688;
                                                                                                                                                                                                                                                                                                                                                                                                                           53;
                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                       252
                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             591
                                                                                                   311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                  304
                                                                                                                                      244
                                                                                                                                                                                                                                                                                                                                                                                                                           18;
```

```
RESULT 8
US-09-925-301-1024
US-09-925-301-1024
; Sequence 1024, Application US/09925301
; Patent No. US20020052308A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/925,301
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05882
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1694
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 1024
LENGTH: 760
                         Š
                                                               밁
                                                                                                δÃ
                                                                                                                                        멍
                                                                                                                                                                       Ş
                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-925-301-1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                      Best
                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Nucleic Acids, Proteins FILE REFERENCE: PA106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens FEATURE:
NAME/KEY: SITE
LOCATION: (330)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                651
240 LCPYDFLKIQTDREEHGPFCGKTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTA
                                                                                                                                        186
                                                                                                                                                                           121
                                                                                                                                                                                                                126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           424
                                                           244 GVNCSGDVFTALIGEIASPNYPKPYPENSRCEYQIRLEKGFQVVVTLRREDFDVEAADSA 303
                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
hes 268; Conserv
                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                           73
                                                                                                                                                                                                                                                                                                             1 MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY 60
                                                                                SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPET
                                                                                                                                                             YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC 180
                                                                                                                                                                                                            FTHLDIELSENCAYDSVQIISGDTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIP 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EKSLPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTA 481
                                                                                                                                      FSNEERFTGFAAYYVATDINECTDFV-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMKNC
                                                                                                                                                                                                                                                  FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD 120
                                                                                                                                                                                                                                                                                       MWCIVLFSLLAWVYAEP-----TMYGEILSPNYPQAYPSEVEKSWDIEVPEGYGIHLY 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WVATGIVSWG-IGCSRG--YGFYTKVLNYVDWIK 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VANPQAC----ENWLRGKNRMDVFSQNMFCAGHPSLKQDACQGDSGGVFAVRDPNTDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IVDHQKCTAAYEKPPYPRGS-----VTANMLCAGLESGGKDSCRGDSGGALVFLDSETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DIALLELENSVTLGPNLLPICLP--DNDTFYDLGLMGYVSGFGVMEEK-IAHDLRFVRLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AHTLYPKEHEAQSNASLDVFLGHTNVEELMKLGNHPIR----RVSVHPDYRQDESYNFEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AHAVYEQKHDA---SALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GFDN 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPNGDFRYTTTMGVNTYKARIQYYCHEPYYKMQTRAGSRESEQGVYTCTAQGIWKNEQKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKV-----NDGKYVCEADGFW-TSSKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMGNFPWQVFTNIHGRGGGALLGDRWILTA 483
                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                  32.9%; Score 1238; DB 10 38.2%; Pred. No. 1.2e-85;
                                                                                                                                                                                                                                                                                                                                                                  102;
                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antibodies
                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                48;
                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                    243
                                                                                                                                                                                                              185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                                                                                                                                                                                                                                                             acids
                                                                                                                                                                                                                                                                                                                                                                18;
```

```
APPLICANT: Jensenius, Jens Chr.
APPLICANT: Thiel, Steffen
TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING EN
TITLE OF INVENTION: USES FOR IT
FILE REFERENCE: 09011-002002
CURRENT APPLICATION UMBER: US/09/874,198
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1997-04-03
                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: HOMO
US-09-874-198-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/09874198 Patent No. US20020082208A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 8
OFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                 ID NO 8
ENGTH: 673
                                                      121
                                                                                         143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         304
                                                                                                                             61
                                                                                                                                                               83
                                                                                                                                                                                                                                      24
                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                            RPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPETLCPYDFLKIQTDREEHGPFCGK:|||:|| | | | | : ||:||
                                                    TDFV-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMKNCGVNCSGDVFTALIGEIASPNYP
                                                                                      QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                           DTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSDFSNEERFTGFAAYYVATDINEC
                                                                                                                                            AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QDPNDKTKFYAAGLVSWGP----QCGTYGLYTRVKNYVDWI 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LD-SETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNWVLTAAHAVYEQKH-----DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYVCEADG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MPCP-KEDTPNSVWEPAKAKYVFRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GNCLDSLVFVAGDRQFGPYCGHGFPGXLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VRLKAARLPVAPLRKCKEVKVEKPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAV 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RNLMYVDIPIVDHQKC-TAAYEKPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -THDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EYWVLTAAHVVEGNREPTMYVGSTSVQTSRLAKSKMLTP-----EHVFIHPGWKLLEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWVNEVLGPELPKCVPVCGVPREPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALIN 538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KLKCQPVDCGIPESIENGKVE----DPESTLFGSVIRYTCEEPYYYMENGGGGEYHCAGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEGRTNFDNDIALVRLKDPVKMGPTVSPICLPGTSSDYNLMDGDLGLISGWGRTEKRDRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FWTSSKGEKSLPVCEPVCGLSAR--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLY
                                                                                                                                                                                                                                                                    32.8%; Score 1234; DB 10; ilarity 38.9%; Pred. No. 2.1e-85; Conservative 101; Mismatches 272;
                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENZYME,
                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                     42;
                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                             142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             582
                  261
                                                                                      202
                                                                                                                         120
                                                                                                                                                                                                60
                                                                                                                                                                                                                                    82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    523
                                                                                                                                                                                                                                                                     18;
                δõ
                                                    B
                                                                                    Ş
                                                                                                                         В
                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
US-09-874-238-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                     US-09-874-238-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSEQ for Windows
SEQ ID NO 8
                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 264; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Jensenius, Jens Chr. APPLICANT: Thiel, Steffen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 09011-002003
                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                       LENGTH: 673
TYPE: PRT
                143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            298
                                                    61
                                                                                      83
                                                                                                                                                             24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -QCGTYGLYTRVKNYVDWI 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KPYPENSRCEYQIRLEKGFQVVVTLRREDFDVEAADSAGNCLDSLVFVAGDRQFGPYCGH
                                                                                                                                                                                                Conservative
                                                                                                                                                                                              101;
```

δÃ 밁

밁

δÃ B QyВр Ş 망 QΥ В δÃ 밁

Qy

밁 QΥ B Qy

δõ B

```
Sequence 8, Application US/09874238 Patent No. US20020082209A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: 60/042,678
PRIOR FILING DATE: 1997-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/874, CURRENT FILING DATE: 2001-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING TITLE OF INVENTION: USES FOR IT
DTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSDFSNEERFTGFAAYYVATDINEC
                                                                                                    AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                            EPTMYGEILSPNYPQAYPSEVEKSWDIEVPEGYGIHLYFTHLDIELSENCAYDSVQIISG
                                                                                                                                                                                                      EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVFLD-SETERWFVGGIVSWGSMNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GPTVSPICLPGTSSDYNLMDGDLGL1SGWGRTEKRDRAVRLKAARLPVAPLRKCKEVKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKC-TAAYE 60:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GFPGPLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDPMPCP-KEDTPNSVWEPAKAKYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAVQDPNDKTKFYAAGLVSWGP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STSVQTSRLAKSKMLTP-----EHVFIHPGWKLLEVPEGRTNFDNDIALVRLKDPVKM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY-----THDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALINEYWVLTAAHVVEGNREPTMYVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --DPESTLFGSVIRYTCEEPYYYMENGGGGEYHCAGNGSWVNEVLGPELPKCVPVCGVPR 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYYCEADGFWTSSKGEKSLPVCEPVCGLSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNSKLKCQPVDCGIPESIENGKVE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYI 319
                                                                                                                                                                                                                                                                                                  32.8%; Score 1234; 38.9%; Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.0
                                                                                                                                                                                                                                                                         ; DB 10;
2.1e-85;
nes 272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENZYME,
                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                            673;
                                                                                                                                                                                                                                                                           42;
                                                                                                                                                                                                                                                                         Gaps
                                                                                                                           142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   544
                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                            202
                                                                          120
                                                                                                                                                                                                                          82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       297
                                                                                                                                                                                                                                                                           18;
```

```
FRENT APPLICATION NUMBER: US/09/925,302
FRICK APPLICATION NUMBER: DCT/US00/05918
FRIOR FILING DATE: 2001-08-10
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 896
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
US-09-925-302-612
; Sequence 612, Application US/09925302
; Patent No. US20020044941A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
     Š
                                                                                                              ; NAME/KEY: SITE
; LOCATION: (284)
; OTHER INFORMATION:
US-09-925-302-612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                            Matches
                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins
TILE REFERENCE: PA104
                                                                                                                                                                                                                                                                        LENGTH: 44
TYPE: PRT
                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                              NAME/KEY: SITE LOCATION: (17)
OTHER INFORMATION:
                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            320
256 GPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPN-GHVSPV 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661 GEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                          Local Similarity
les 186; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVFLD-SETERWFVGGIVSWGSMNC 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKC-TAAYE 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STSVQTSRLAKSKMLTP-----EHVFIHPGWKLLEVPEGRTNFDNDIALVRLKDPVKM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKH------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -QCGTYGLYTRVKNYVDWI 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPTVSPICLPGTSSDYNLMDGDLGLISGWGRTEKRDRAVRLKAARLPVAPLRKCKEVKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --DPESTLFGSVIRYTCEEPYYYMENGGGGEYHCAGNGSWVNEVLGPELPKCVPVCGVPR 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNSKLKCQPVDCGIPESIENGKVE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GFPGPLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDPMPCP-KEDTPNSVWEPAKAKYV 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYI 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPETLCPYDFLKIQTDREEHGPFCGK 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAVQDPNDKTKFYAAGLVSWGP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY-----THDAGFDNDIALIKLNNKVVI 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALINEYWVLTAAHVVEGNREPTMYVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KPYPENSRCEYQIRLEKGFQVVVVTLRREDFDVEAADSAGNCLDSLVFVAGDRQFGPYCGH 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TDFV-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMKNCGVNCSGDVFTALIGEIASPNYP 178
                                                                                                                                                                                                                                                                                        449
                                          Conservative
                                                                                                                            Xaa
                                                                                                                                                                                  Xaa
                                                        22.7%;
                                                                                                                            equals
                                                                                                                                                                                equals
                                        63;
                                    Score 852.5; D
Pred. No. 7.4e-
3; Mismatches
                                                                                                                          any of the naturally occurring
                                                                                                                                                                              any
                                                                                                                                                                                0f
                                                                                                                                                                                the
                                                                                                                                                                            naturally occurring L-amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and Antibodies
                                                          DB 10;
e-57;
                                        159;
                                      Indels
                                                                       Length
                                      43;
                                                                                                                          L-amino
                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                          acids
                                                                                                                                                                              acids
                                      15;
```

```
; FEATURE:
; NAME/KEY: SITE
; LOCATION: (307)
; OTHER INFORMATION: X
: NAME/KEY: SITE
; LOCATION: (335)
; OTHER INFORMATION: X
US-09-925-302-611
 B
                                  Ş
                                                                       밁
                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 12
US-09-925-302-611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Pa
SEQ ID NO 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 611, Application US/09925302 Patent No. US20020044941A1
                                                                                                                                                              Query Match
Best Local :
                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 896
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/925,302 CURRENT FILING DATE: 2001-08-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Nucleic Acids, Proteins FILE REFERENCE: PA104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: PCT/US00/05918 PRIOR FILING DATE: 2000-03-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Rosen et al.
                                                                                                                                                                                                                                                                                                                                                               LENGTH: 351
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          650 GGIVSWGSMNCGEAGQYGVYTKVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       415 TGIVSWG-IGCSRG--YGFYTKVLNYVDWIK 442
 56
                                   56
                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69
                                                                       N
                                                                                          1 MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MWLLYLLVPALECRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LYPKEHEAQSNASLDVFLGHTNVEELMKLGNHPIRRXS----VHPDYRQDESYNFEGDIA 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VYEQKHDA---SALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GFDNDIA 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPVCEPVCG--LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHA 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GRVEYITGPGVTTYKAVIQYSCEETFYTMKV-----NDGKYVCEADGFW-TSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QPQYQFRDYFIATCKQGYQLIEGNQVLHSFTAVCQDDGTWHRAMPRCKIKDCGQPRNLPN 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPS 374
RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL 115
                      RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PQAC-----ENWLRGKNRMDVFSQNMFCAGHPSLKQDACQGDSGGVFAVRDPNTDRWVA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVD 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HQKCTAAYEKPPYPRGS-----VTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLELENSVTLGPNLLPICLP--DNDTFYDLGLMGYVSGFGVMEEK-IAHDLRFVRLPVAN 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPRCLPVCGKPVNPVEQRQRIIGGQKAKMGNFPWQVFTNIHGRGGGALLGDRWILTAAHT 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDFRYTTTMGVNTYKARIQYYCHEPYYKMQTRAGSRESEQGVYTCTAQGIWKNEQKGEK- 187
                                                                                                                                             al Similarity
138; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                             Conservative
                                                                                                                                                                                                                                      Xaa
                                                                                                                                                                                                                                                                                         Xaa equals any of the naturally occurring
                                                                                                                                                              18.1%;
43.0%;
                                                                                                                                                                                                                                   equals any of the
                                                                                                                                           ; Score 681.5; DB 10;
; Pred. No. 4.3e-44;
50; Mismatches 112;
                                                                                                                                                                                                                                      naturally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                               DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antibodies
                                                                                                                                                                                                                                    occurring
                                                                                                                                             Indels
                                                                                                                                                                            Length
                                                                                                                                           21;
                                                                                                                                                                                                                                      L-amino
                                                                                                                                                                                                                                                                                           L-amino
                                                                                                                                           Caps
                                                                       55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                           acids
                                                                                                                                             7;
```

```
B
                                                                                                                   Q
                                                                                                                                                            밁
                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                       дъ
                                   Q
                                                                                                                                                                                                                                                                                                                                                          δÃ
    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens US-09-808-602-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 13
US-09-808-602-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERAL INFORMATION:

APPLICANT: Vernet, C
APPLICANT: Fernande
APPLICANT: Shimkets
APPLICANT: Herrman,
APPLICANT: Majumde,
APPLICANT: Mishra,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Ver.
SEQ ID NO 95
LENGTH: 464
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
PRIOR APPLICATION NUMBER: 60/186,596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: MacDougall, John
TITLE OF INVENTION: NO. US20020155115A1el Proteins and Nuclec Acids Encoding Same
FILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             quence 95,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       quence 95, Application US/09808602
pent No. US20020155115A1
                                                                          202 VLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                   367
                                                                                                                                                                                                                                            131
                                                                                                                                                                                                                                                                                 307
                                                                                                                                                                                                                                                                                                                                                                                                                                        195 ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   116
                                   481 AAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GF
                                                                                                                                                                                                                                                                                                                                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                                                                                 28 QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFVGSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 27.6 les 142; Conservative
                                                                                                                                                                                                                                                                                                                                                          HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SRGWKLRYTTEXHQVPPAQDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD 295
AAHTVYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                   LPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT 480
                                                                                                                                                                                                 GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                             PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC 366
                                                                                                                                                                                                                                                                                                                       PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TFRSDYSNEKP-----FTGFEAFYAAEDIDEC--QVAPGE---APTCDHHCHNHLGGFYC 165
                                                                                                                                                        -----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fernandes, Elma
Shimkets, Richard A
Herrman, John L
Majumder, Kumud
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mishra, Vishnu
Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Corine A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13.1%; Score 493.5; DB 9; 27.6%; Pred. No. 9.4e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73; Mismatches 194;
                                                                                                                                                                                                                                      -KGFLALYQTVAV-----NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 464;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   175
                                                                                                                                                                                                                                                                                                                                                                                                   84
                                                                            257
                                                                                                                                                                                                                                        151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20;
```

```
δÃ
                                                                                                                         멍
                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
US-09-808-602-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-808-602-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3-09-000
Sequence 93, Application: Sequence 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 114
SOFTWARE: PatentIn Ver. 2
SEQ ID NO 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 27.6 Matches 142; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MacDougall, John
TITLE OF INVENTION: No. US20020155115A1el Proteins and
FILE REFERENCE: 15966-697 CIP
CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR APPLICATION NUMBER: 60/186,596
PRIOR APPLICATION NUMBER: 60/186,596
PRIOR APPLICATION NUMBER: 3001-03-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Vernet,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 487
TYPE: PRT
ORGANISM: Homo sapiens
530 DNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD
                                                                                                                                                                                                                                                                                                                                                  427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            430
                                                                                                                                                                                                                                                                           225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195 ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51
                                                                                                                 AAHTVYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                                                                                                                                                                       VLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                                                                                                                                                                  LPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFVGSD 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD
                                                                                                                                                                                            AAHAVYEQK - - - - HDASALDIRMG - - - - - TLKRLSPHYTQAWSEAVFIHEGYTHDA - - GF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGDSGSVYVVWDNHAHHWVA 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR 370
                                                                                                                                                                                                                                                                                                                                                                                                                            -----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Herrman, John L
Majumder, Kumud
Mishra, Vishnu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fernandes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/09808602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Corine A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13.1%; Score 493.5; DB 9;
27.6%; Pred. No. 1e-29;
73. Mismatches 194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nuclec Acids Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                       280
                                                                                                                                                                                                                                                                                                                                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20;
```

```
õ
                                              В
                                                                                     õ
                                                                                                                                     В
                                                                                                                                                                          δõ
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-808-602-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-808-602-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 141; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. US20020155115A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/808,602 CURRENT FILING DATE: 2001-03-14 PRIOR APPLICATION NUMBER: 09/800,198 PRIOR FILING DATE: 2001-03-05 PRIOR APPLICATION NUMBER: 60/186,596 PRIOR APPLICATION NUMBER: 60/186,596 PRIOR FILING DATE: 2000-03-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: MacDougall, John
TITLE OF INVENTION: No. US20020155115A1el Proteins and Nuclec Acids Encoding
FILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 452
                                                                                                                                                                                                                          190
                                                                                                                                                                                                                                                 427 LPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT 480
                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      195 ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREE 254
                                                                                                                                                                                                                                                                                                                                                                                                                                            307 PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 255 HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16 QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFVGSD 72
                                                                                                                                                                                                                                                                                                                                                      GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
IPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV 649
                                                                                  DNDIALIKLNNKYVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD 589
                                                                                                                                AAHTIYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                                                                          AAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GF
                                                                                                                                                                                                                      VLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPVAPREACNAWLOKRORPE-VFSDNMFCVGDETQRHSVCQGDSGSVYVVWDNHAHHWVA 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV
                                         SGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR
                                                                                                                                                                                                                                                                                                           -----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SGDTALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Majumder, Kumud
Mishra, Vishnu
Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shimkets, Richard A
Herrman, John L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fernandes, Elma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09808602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Corine A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13.1%;
                                                                                                                                                                                                                                                                                                                                                                                                  -----KGFLALYQTVAV----NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 492; DB 9; I
Pred. No. 1.2e-29;
74: Mismatches 194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 106;
                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Same
                                                                                                       В
                                                                                                                                                δõ
                                                                                                                                                                                               В
                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapiens US-09-808-602-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-808-602-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 19, Application US/09808602 Patent No. US20020155115A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 60/186,596
PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: MacDougall, John
TITLE OF INVENTION: No. US20020155115Alel Proteins and Nuclec Acids Encoding Same
FILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Vernet, APPLICANT: Fernan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2001-03-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                               264
                                                                                                                                                                                                                                          464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              418 TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359
                                                                                                                                                                                                                                                                                                                                                                           166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHP 237
                  FGM-EMGWLTTELKYSRLPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGD
                                                           WGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGD
                                                                                                                                                   EAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASG 572
                                                                                                                                                                                                                                      GGTTAAGALLYDNWVLTAAHAVYEQK----HDASALDIRMG----TLKRLSPHYTQAWS
                                                                                                                                                                                                                                                                                 LTCATPGTWKDRQDGEEVLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTS 263
                                                                                                                                                                                                                                                                                                                             YVCEADGFWTSSKGEKSLPVCEPVCG-----LSARTTGGRIYGGQKAKPGDFPWQVLIL 463
                                                                                                                                                                                                                                                                                                                                                                         ---NYSQPISEA-----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGA 207
                                                                                                                                                                                                                                                                                                                                                                                                                  KDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGK 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SQDCAGDSVTISFVGSDPSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTA 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ETLCPYDFLKIQTDREEHGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGW 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QACPTRGSVLLAQQLPQQLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGDSGSVYVVWDNHAHHWVA 417
                                                                                                                                                                                            IHGRGGGALLGDRWILTAAHTIYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fernandes, Elma
Shimkets, Richard A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mishra, Vishnu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Majumder, Kumud
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Herrman, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Corine A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13.1%; Score 492; DB 9;
27.1%; Pred. No. 1.3e-29;
tive 76; Mismatches 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----KGFLALYQTVAV-- 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
```

106;

20;

90

δÃ

```
망
                                                                                             Qγ
                                                                                                                                Вþ
                                                                                                                                                            δÃ
                                                                                                                                                                                                   망
                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-808-602-17
Sequence 17, Application US/09808602
Patent No. US20020155115A1
GENERAL INFORMATION:
                          Qy
                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LENGTH: 487
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-808-602-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 13.1%; Score 491.5; DB 9; Length 487; Best Local Similarity 27.4%; Pred. No. 1.4e-29; Matches 141; Conservative 74; Mismatches 194; Indels 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RRENT APPLICATION NUMBER: US/09/808,602
RRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
PRIOR APPLICATION NUMBER: 60/186,596
PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: MacDougall, John TITLE OF INVENTION: No. US20020155115Alel Proteins ILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Vernet, Corine APPLICANT: Fernandes, Elm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                       427
                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51 QLTSPGYPEPYGKGQESSTDIKAPEGFAVRLVF-QDFDLE--PSQDCAGDSVTISFYGSD 107
                 GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS 684
                                                             LPVAPREACNAWLQKRQRPE-VFSDNMFCVGDETQRHSVCQGDSGSLYVVWDNHAHHWVA 452
                                                                                                                                                                                                                                                                                                                                                                                                                                        PNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDC
                                                                               IPIVDHOKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFV 649
                                                                                                                                                                                                 AAHTIYPKDSVSLRKNQSVNVFLGHTAIDEMLKLGNHPV----HRVVVHPDYRQNESHNF
                                                                                                                                                                                                                                                                                       HGPFCGK-----TLPHRIE--TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
TGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN 484
                                                                                                                                SGDIALLELQHSIPLGPNVLPVCLP--DNETLYRSGLLGYVSGFGM-EMGWLTTELKYSR
                                                                                                                                                                DNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVD 589
                                                                                                                                                                                                                                   AAHAVYEQK----HDASALDIRMG-----TLKRLSPHYTQAWSEAVFIHEGYTHDA--GF
                                                                                                                                                                                                                                                                    VLQCMPVCGRPVTPIAQNQTT----LGSSRAKLGNFPWQAFTSIHGRGGGALLGDRWILT
                                                                                                                                                                                                                                                                                                                                                                     GPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSQFCGQQGSPLGRPPGQREFVSSGRSLRLTFRTQPSSENKTAHLH-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SGSLYVVWDNHAHHWVATGIVSWG-IGCGEG--YDFYTKVLSYVDWIKGVMN 484
                                                                                                                                                                                                                                                                                                                                     ----SRGSEAINAPGDNPAK--VQNHCQEPYY-QAAAAGALTCATPGTWKDRQDGEE 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Majumder, Kumud
Mishra, Vishnu
Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fernandes, Elma
Shimkets, Richard A
Herrman, John L
                                                                                                                                                                                                                                                                                                                                                                                                        -----KGFLALYQTVAV----NYSQPISEA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Nuclec Acids
                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                    529
                                                                                                                                                                                                                                                                                                                                                                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                        174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Same
                                                           δã
                            밁
                                                                                               밁
                                                                                                                              Š
                                                                                                                                                                B
                                                                                                                                                                                               Š
                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
```

```
; TYPE: PRT; ORGANISM: Homo Sapien US-10-099-700A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 18
US-10-099-700A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Edwin L. Madison
APPLICANT: Edwin L. Madison
APPLICANT: Edgar O. Ong
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING TRANSMEMBRANE SERINE PROTEASE
TITLE OF INVENTION: ENCODED POLYPEPTIDES AND METHODS BASED THEREON
FILE REFERENCE: 24745-1613
CURRENT APPLICATION NUMBER: US/10/099,700A
CURRENT APPLICATION NUMBER: 002-05-24
PRIOR APPLICATION NUMBER: 60/275,592
PRIOR APPLICATION NUMBER: 60/275,592
PRIOR APPLICATION NUMBER: 60/275,592
PRIOR FILING DATE: 2001-03-13
NUMBER OF SEO ID NOS: 2
SOFTWARE: FastSEQ for Windows Version 4.0
SEO ID NO 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/10099700A Publication No. US20030008372A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 186; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 855
                                                                                                                                                                                                                          492
                                                                                                                                                                                                                                                                                                                                        454
                                                                                                                                                                                                                                                                                                                                                                                                                                                    397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       227
SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---
                                                    CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                        CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                  RSAPGVQERRLKRIISH ---
                                                                                                                                                                                                                       ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI 551
                                                                                                                                                                                                                                                                                 GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                  GDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQK------HD---
                                                                                                                                                                                                                                                                                                                                                                                               LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                               EETFYTMKVN---DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ILK------DSESIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C------GRLRKAQGTFNSPYY 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGOVFTORSGELSSPEY 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PHALVQLCG----TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RFTTPGFPDSPYPAHARCQWALRGDADSVLSLTFRSFDLASCDERGSDLVTVYNTLSPME 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGHYPPNIDCTWNIEVPNNQHVKVSFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13.0%; Score 490; DB 9; Length 855; 25.5%; Pred. No. 3.8e-29; Indels 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                  -----PFFNDFTFDYDIALLELEKPAEYSSMVRPI 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GQFTCRTGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                        491
                                                                                                                                                                                                                                                                                                                                                                                               623
                                                                                                                                                                                                                                                                                                                                                                                                                                                 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31;
```

Ş В

밁

603

```
GENERAL INFORMATION:

APPLICANT: Allen, Keith D

APPLICANT: Leviten, Mishael W.

APPLICANT: Leviten, Mishael W.

TITLE OF INVENTION: TRANSGENIC MICE CONTAINING SER

TITLE OF INVENTION: PROTEASE GENE DISRUPTIONS

LE REFERENCE: R-386

RENT APPLICATION NUMBER: US/09/900,751

RENT FILING DATE: 2001-07-06

PRIOR APPLICATION NUMBER: US 60/217,449

PRIOR APPLICATION NUMBER: US 60/223,170

PRIOR APPLICATION NUMBER: US 60/223,170

PRIOR APPLICATION NUMBER: US 60/223,460

PRIOR FILING DATE: 2000-08-07

PRIOR FILING DATE: 2000-08-07

PRIOR FILING DATE: 2000-08-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: Mus musculus US-09-900-751-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 19
US-09-900-751-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ
SEQ ID NO 2
LENGTH: 855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09900751 Patent No. US20020026653A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  192 VLTSVVAFPIDPRMLQRTQDNSCSFALHAHGAAVTRFTTPGFPNSPYPAHARCQWVLRGD 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 LLCGSVATPLGPKWPE-------PVFGRLASPGFPGE-YANDQERRWTLTAP 52
GLRSFTKQARVVGGTNADEGEWEWQVSLHALGQGHLCGASLISPDWLVSAAHCFQDDKNF
                                          GLSARTTGGRIYGGQKAKPGDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQKH- 490
                                                                                                                                                                                                                                                                         TDTGFLAEYLSYDSNDPCPGMFMCKTGRCIRKELRCDGWADCPDY--SDERYCRCNATHQ
                                                                                                                                                                                                                                                                                                                      DHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAK-----YILKDSFSIFCETGYE
                                                                                                                                                                                                                                                                                                                                                                   RFKLFYLVDPNVPVGSCTKDYVEINGEK-----YCGERSQFVVSSNSSKITVHFHSDHSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYC 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK-----VLATLCGQESTDTERAPGKD-TF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RLPLFRDWIK 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KVINYIPWIE 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT 840
                                                                                          SDEASCDSVNVVSC--TKYTYRCQNG--LCLSKGNPECDGKTDCSDGSDEKN----CD--C
                                                                                                                                       PGVTTYKAVIQYSCEETFYTMKVNDGKYVC-----EADGFWTSSKG--EKSLPVCEPVC
                                                                                                                                                                                    FTCKNQFCKPLFWVCDSVNDCGDGSDEEGCSCPAGSFKCSNGKCLPQSQKCNGKDNCGDG
                                                                                                                                                                                                                               LLQGHLPLKSFTAVCQK-----DGSWDR--PMPA----CSIVDCGPPDDLPSGRVEYITG
                                                                                                                                                                                                                                                                                                                                                                                                                DFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESG 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SCRAGYVLHRNKRTCSALCSGOVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADSVLSLTERSEDVAPCDEHGSDLVTVYDSLSPMEPHAVVRLCGTFS-----PSYNLTF 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12.5%; Score 469.5; DB 10; Length 855; 25.4%; Pred. No. 1.3e-27; ative 101; Mismatches 306; Indels 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----LSDTQGTFSSPYYPGHYPPNINCTWNIKVPNNRNVKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SERINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                       434
                                                                                                                                                                                                                                                                            493
                                                                                                                                                                                                                                                                                                                      333
                                                                                                                                                                                    553
                                                                                                                                                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                дb
                                                                                                                                RESULT 21
US-09-978-295A-169
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-981-123-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  us-09-981-123-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 2
LENGTH: 269
TYPE: PRT
ORGANISM: Homo sapiens
                                          GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                       Sequence 169, Application US/09978295A Patent No. US20020156006A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/09981123 Patent No. US20020151029A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/167,038
PRIOR FILING DATE: 1999-11-23
PRIOR APPLICATION NUMBER: 09/715,994
PRIOR EILING DATE: 2000-11-17
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/981,123
CURRENT FILING DATE: 2001-10-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Holloway, James L. TITLE OF INVENTION: Human Serine Protease FILE REFERENCE: 99-88C1
  APPLICANT:
                                                                                                                                                                                                                                                                         655
                                                                                                                                                                                                                                                                                                                      179
                                                                                                                                                                                                                                                                                                                                                                   595
                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                           547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        444 RIYGGQKAKPGDFPWQVLILGGTTA------AGALLYDNWVLTAAHAVYEQKHDASA 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                834 NKPGVYTRLPVVRDWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       491
                                                                                                                                                                                                                               238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ⊷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WGS-MNCGEAGQYGVYTKVINYIPWI 679
                                                                                                                                                                                                                                                                                                                                                   HQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVS
                                                                                                                                                                                                                                                                                                                                                                                                            HVMPVCLPRLEPEG-PAPHMLGLVAGWGISNPNVTVDEIISSGTRTLSDVLQYVKLPVVP 178
                                                                                                                                                                                                                                                                                                                                                                                                                                           NITPICLPRKEAESFMRTDDIGTASGWGLTQRGF------LARNLMYVDIPIVD 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LDI-RMGTLKRLSPHYTQAWSEA------VFIHEGYTHDAGFDNDIALIKLNNKVVINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GOYGVYTKVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STVVRPICLP -- DATHVFPAGKAIWVTGWGHTKEGGTGALILQKGEIRVINQTTCEDLMP 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KYSDYTMWTAFLGLLDQSKRSASGVQELKLKRIITHPSF-NDFTFDYDIALLELEKSVEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---DASALDIRMGTL---KRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                            WGGPEECGSKQVYGVYTKVSNYVDWV
                                                                                                                                                                                                                                                                                                                      HAECKTSYESRS-GNYSVTENMFCAGYYEGGKDTCLGDSGGAFVIFDDLSQRWVVQGLVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPVSKEHVTVYLGLHDVRDKSGAVNSSAARVVLHPDF-NIQNYNHDIALVQLQEPVPLGP 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q-----QITPRMMCVGFLSGGVDSCQGDSGGPLSSAEKD-GRMFQAGVVSWGE-GCAQR 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEA 663
Botstein,
                       Baker Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11.9%; Score 446.5; DB 10; 37.6%; Pred. No. 1.6e-26; 41. Mismatches 92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33;
```

Gaps

8

546

654 237

δô

B δõ Ъ

В Ş Вb

Ş 밁 Ş

밁

В

δ 밁 Ş

```
CURRENT
                                                                                                                PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                PRIOR
VIOR
OR
OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT FILING DATE: 2001-10-15
PRIOR APPLICATION NUMBER: 09/918585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Wood, William I.
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLICANT
DR APPLICATION NUMBER: 60/079663

DR FILING DATE: 1998-03-27

PR FILING DATE: 1998-03-27

DR FILING DATE: 1998-03-27

DR APPLICATION NUMBER: 60/079786

DR FILING DATE: 1998-03-27

DR FILING DATE: 1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE: P2630P1C1
                                                                                                                                                                                                FILING DATE: 1998-03-20
APPLICATION NUMBER: 60/
FILING DATE: 1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/065311
FILING DATE: 1997-11-13
APPLICATION NUMBER: 60/066364
FILING DATE: 1997-11-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/064249 FILING DATE: 1997-11-03
                                                                                    APPLICATION NUMBER: FILING DATE: 1998-0:
                                                                                                                APPLICATION NUMBER: FILING DATE: 1998-0
                                                                                                                                           APPLICATION NUMBER: 60/079656 FILING DATE: 1998-03-26
                                                                                                                                                                       APPLICATION NUMBER: 60/
FILING DATE: 1998-03-25
                                                                                                                                                                                                                                          FILING DATE: 1998-03-20 APPLICATION NUMBER: 60/078910
                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/078004
                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/077649
FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077791
FILING DATE: 1998-03-12
                                                                                                                                                                                                                                                                 FILING DATE: 1998-03-20
APPLICATION NUMBER: 60/078936
                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 1998-03 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/09/978,295A FILING DATE: 2001-10-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumas, Daniel
Williams, P. Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gao,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stewart,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shelton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Paoni,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kljavin, Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gurney, Austin L.
Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Godowski, Paul J.
Grimaldi, J. Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gerritsen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gerber, Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eaton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Margaret Ann
ton, David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            James;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sherman
                                                                                    1998-03-27
                                                                                                                1998-03-27
                                                                                                                                                                                                                                                                                                             1998-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nicholas F.
                                                                                                                                                                                                                                                                                                                                                                                                  1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                             1998-03-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Napoleon
f, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Timothy A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>.</u>
                                                                                                 60/079689
                                                                                                                             60/079664
                                                                                                                                                                                    60/079294
                                                                                                                                                                                                                60/078939
                                                                                                                                                                                                                                                                                                60/078886
                                                                                                                                                                                                                                                                                                                                                                                                             60/077641
                                                                                                                                                                                                                                                                                                                                                                                                                                       60/077632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/077450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ħ
                                                                                                                           PRIOR PRIOR
                                                                                                                                                                      PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                 PRIOR
PRIOR
                                                                                                PRIOR
                                                                                                                                                       PRIOR
                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                      PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                      PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
                                                        PRIOR
                                                                                                                                                                                                                                                                                                               PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
```

OR FILING DATE: 1998-04-15
OR APPLICATION NUMBER: 60/01
OR APPLICATION NUMBER: 60/01
OR FILING DATE: 1998-04-15
OR FILING DATE: 1998-04-15
OR APPLICATION NUMBER: 60/01
OR FILING DATE: 1998-04-21
OR APPLICATION NUMBER: 60/01
OR APPLICATION NUMBER: 60/01 OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/8033
OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/080334
OR FILING DATE: 1998-04-01
OR APPLICATION WIMBER: 60/081070
OR FILING DATE: 1998-04-08
OR FILING DATE: 1998-04-08 DR FILING DATE: 1998-04-22
DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-22
PR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-23
DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-27
DR FILING DATE: 1998-04-28
DR APPLICATION NUMBER: 60/08 DR FILING DATE: 1998-04
NR APPLICATION NUMBER: 6
NR FILING DATE: 1998-04
NR APPLICATION NUMBER: 6
NR APPLICATION NUMBER: 6
NR FILING DATE: 1998-04
NR FILING DATE: 1998-04
NR FILING DATE: 1998-04
NR FILING DATE: 1998-04
NR APPLICATION NUMBER: 6 R APPLICATION NI
R FILING DATE:
R APPLICATION NI
R FILING DATE:
R APPLICATION NI
R FILING DATE:
R FILING DATE:
R FILING DATE: R APPLICATION N R FILING DATE: R APPLICATION N APPLICATION NUMBER: 60/081049
FILING DATE: 1998-04-08
APPLICATION NUMBER: 60/081071
FILING DATE: 1998-04-08
APPLICATION NUMBER: 60/081195 FILING DATE: 1998-03-31
APPLICATION NUMBER: 60/080194
FILING DATE: 1998-03-31
APPLICATION NUMBER: 60/080327 APPLICATION APPLICATION N FILING DATE: FILING DATE: FILING DATE: 1998-04 APPLICATION NUMBER: FILING DATE: 1998-04 APPLICATION NUMBER: APPLICATION NUMBER: 60/080165 FILING DATE: 1998-03-31 APPLICATION NUMBER: 60/080107 FILING DATE: 1998-03-31 FILING DATE: APPLICATION NUMBER: APPLICATION NUMBER: FILING DATE: 1998-0: APPLICATION NUMBER: 60/ FILING DATE: 1998-03-30 N NUMBER: 60/0 E: 1998-04-29 NUMBER: 60/0: 1998-04-22 NUMBER: 60/ : 1998-04-29 NUMBER: 60/ : 1998-04-29 NUMBER: 60/ : 1998-04-22 NUMBER: 60/083554 : 1998-04-29 NUMBER: NUMBER: 60/081817 1998-04-15 1998-04-29 1998-04-29 1998-04-1 1998-04-09 1998-04-09 1998-04-08 1998-04-01 1998-03-3 1998-03-30 60/081955 )4-15 60/081203 60/080328 60/083558 60/083499 60/083496 60/083495 60/083392 60/083322 60/083336 60/082796 60/082797 60/082700 60/082804 60/082704 60/082569 60/082568 60/081838 60/081952 60/081819 60/081229 60/080105 60/079923 60/079920

```
В
   В
                               S
                                                               멍
                                                                                              Ş
                                                                                                                                 В
                                                                                                                                                              δ
                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                  ry Match
                                                                                                                                                                                                                                                                                                                                                                                                   IOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OR OR
                                                                                                                                  449
                                                                                                                                                                 300
                                                                                                                                                                                                    394
                                                                                                                                                                                                                                   247
                                                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                              194 GELSSPEYPRPYPKLSSCTYSI---SLEEGFSVILDFV----ESFDVETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/084627 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 1998-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/085580 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/
FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/085339 FILING DATE: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/084643 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/084600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/084598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/084637 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/
FILING DATE: 1998-05-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/
FILING DATE: 1998-05-06
                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/085573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/085338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/084639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 1998-05-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/084366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/083742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING
                             VCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQ--VLILGGTTA 468
                                                                                  WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN---DGKY 410
                                                                                                                             CPGEFLCSVNGLCVP--ACDGVKD-----CPNG-----LDERNCVCRATFQCKEDS
                                                                                                                                                              CPYP-MAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGS
                                                                                                                                                                                               TIQNRR-----LCGLRILQPYAERIPVVATAGITINFTSQISLTGPGVRVHYGLYNQSDP 448
                                                                                                                                                                                                                              KIQTDREEHGPFCG----KTLPHRIETKSNT-VTITFVTDESGDHTGWKIHY--TSTAQP 299
                                                                                                                                                                                                                                                               GVLSTPYFPSYYSPQTHCSWHLTVPSLDYGLALWFDAYALRRQKYDLP-----CTQGQW 393
DCR-DG----SDEEH----CD--CGLQGPSS--RIVGGAVSSEGEWPWQASLQVRGRHIC
                                                                 TCISLP - - KVCD - GQPDCL - NGSDEEQCQEGVPC -
                                                                                                                                                                                                                                                                                                                                  153;
                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER: 60/085697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER: 60/085323
1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER: 60/084640
1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                    1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-04-29
                                                                                                                                                                                                                                                                                                                                               11.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/085689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/085582
                                                                                                                                                                                                                                                                                                                                                                                                                               60/085704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/085700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/084441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/084414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60/083500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/083559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/085579
                                                                                                                                                                                                                                                                                                                                   81;
                                                                                                                                                                                                                                                                                                                                Score 444; DB 9; 1
Pred. No. 1e-25;
1; Mismatches 200;
                                                               -GTFTFQCEDRSCVKKPNPQCDGRP
                                                                                                                                                                                                                                                                                                                                                               DB 9;
                                                                                                                                                                                                                                                                                                                                                             Length 802;
                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                86;
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                              353
                                                               546
                                                                                                                                 492
                                                                                                                                                                                                                                                                                                                                31;
```

```
δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 22
US-09-978-697-169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/064249
PRIOR FILING DATE: 1997-11-03
                                                                                                                                                                                                                                                        TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: P2630P1C27 CURRENT APPLICATION NUMBER: US/09/978,697 CURRENT FILING DATE: 2001-10-16 PRIOR APPLICATION NUMBER: 09/918585
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                        PRIOR
                                                                                                           PRIOR
                                                                                                                                      PRIOR APPLICATION NUMBER: 60/066364
                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/065311 PRIOR FILING DATE: 1997-11-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Ashkenazi, Avi
                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      764
                                            R FILING DATE: 1998-03
R APPLICATION NUMBER: (
R FILING DATE: 1998-03
R APPLICATION NUMBER: (
R FILING DATE:
R APPLICATION N
R FILING DATE:
                                                                                                                        FILING DATE: 1997-11-21
                                                                                                         APPLICATION NUMBER: 60/077450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGALLYDNWYLTAAHAVYEQKHDASAL-DIRMGTLKRLS--PHYTQAWSEAVFIHEGYTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GRWFLAGLVSWG-LGCGRPNYFGVYTRITGVISWIQQVVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGALIADRWVITAAHCFQEDSMASTVLWTVFLGKVWQNSRWPGEVSFKVSRLLLHP-YHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LQKVDVQLIPQDLCSEAY-----RYQVTPRMLCAGYRKGKKDACQGDSGGPLV-CKALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EDSHDYDVALLQLDHPVVRSAAVRPVCLPAR--SHFFEPGLHCWITGWGALREGGPISNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           169,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gurney, Austin L.
Hillan, Kenneth J
Kljavin, Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US20020169284A1
                                                                                                                                                                                                                                                                                                                                                   Williams, P. Mic. Wood, William I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fong,
                                                                                                                                                                                                                                                                                                                                                                                                    Stewart,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerber, Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                      Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                 Shelton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Paoni,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gao, Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ferrara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eaton, Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Baker Kevin P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gerritsen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09978697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 James;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Margaret Ann
 NUMBER: 60/077649: 1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sherman
                                                            1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nicholas F.
                              1998-03-11
                                                                                           1998-03-10
                                                                                                                                                                                                                                                                                                                                                                                                   David L.
Timothy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     f, Ellen
                                                                                                                                                                                                                                                                                                                                                                      P. Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mary
                                                                            60/077632
                                            60/077641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          652
```

R FILING DATE: 1998-03-12
R APPLICATION NUMBEE: 60/078004
R FILING DATE: 1998-03-13
R APPLICATION NUMBER: 60/078886
DR FILING DATE: 1998-03-20
PR APPLICATION NUMBER: 60/078936
PR APPLICATION NUMBER: 60/078936
PR FILING DATE: 1998-03-20

```
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                             PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                         PRIOR PRIOR
                                                                                                                                                                                                                                                                                         PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                         PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-29
DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-29
DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-29
DR APPLICATION NUMBER: 60/08
DR FILING DATE: 1998-04-29
DR FILING DATE: 1998-04-29
DR FILING DATE: 1998-04-30
DR FILING DATE: 1998-04-30
DR FILING DATE: 1998-05-05
DR APPLICATION NUMBER: 60/08
                                                                                                                                                                                                                                                                                                                                                                  R FILING DATE: 1998-05-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-05-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-05-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-5-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-5-
R FILING DATE: 1998-05-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R FILING DATE: 1998-04
R APPLICATION NUMBER:
R FILING DATE: 1998-04
R FILING DATE: 1998-04
R FILING DATE: 1998-04
A FILING DATE:
A APPLICATION N
FILING DATE:
A PPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R FILING DATE:
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R APPLICATION N
FILING DATE:
APPLICATION N
FILING DATE:
APPLICATION N
APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/
FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION |
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION : FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/
FILING DATE: 1998-05-06
                                      N NUMBER: 00,
N 1998-05-15
1998-05-15
1998-7-15
                                                                                                                                             NUMBER: 60: 1998-05-1
                                                                                                                                                                                                            NUMBER: 60: 1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER: 60
1: 1998-04-2
                                                                                                                                                                                                                                            NUMBER: 60/085323
: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                       NUMBER: 60/084627: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER: 60/
: 1998-05-07
                NUMBER: 60: 1998-05-1
                                                                                                             NUMBER: 60/085579: 1998-05-15
                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER: 60/084414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER: 60/082804
: 1998-04-22
                                                                                                                                                                                            NUMBER:
                                                                                                                                                                                                                                                                                           NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER: 60/084600
1998-5-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER: 60/084640
1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER: 60/084637
1998-05-07
                                                                                                                                                                             1998-05-1
                                                                                                                                                                                                                                                                          1998-05-1
                                                                                                                                                                                                                                                                                                          1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-04-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-04-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-04-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-29
                                                                                                                                                                                                                                                                                                           60/085339
5-13
                                                                                                                                                            60/085689
                                                                                                                                                                                                                           60/085582
                                                                                                                                                                                                                                                                                                                                                        60/084643
                                                                                                                                                                                                                                                                                                                                                                                                                                                      60/084598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/084639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/084441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/083742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60/083500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60/083559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60/083554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/083545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/083499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/083496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/083392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082796
                                                                                                                                                                                            60/085700
                                                                                                                                                                                                                                                                                           60/085338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/084366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60/083558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/083495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60/083322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/083336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082700
```

DR FILING DATE: 1998-03-31

PR APPLICATION NUMBER: 60/080165

PR FILING DATE: 1998-03-31

PR APPLICATION NUMBER: 60/080194

DR FILING DATE: 1998-03-31

DR APPLICATION NUMBER: 60/080327

FILING DATE: 1998-04-01 APPLICATION NUMBER: 60/080328

NUMBER: 60/080327 1998-04-01

R FILING DATE: 1998-03 R APPLICATION NUMBER: / R FILING DATE: 1998-03 R APPLICATION NUMBER:

1998-03-31 1998-03-30

60/080105

NUMBER: 60/ : 1998-03-31

60/080107

FILING DATE: 1998-03-30
APPLICATION NUMBER: 60/079923

FILING DATE: 1998-03 APPLICATION NUMBER:

60/079920

DR FILING DATE: 1998-04-01

R APPLICATION NUMBER: 60/080333

DR FILING DATE: 1998-04-01

DR APPLICATION NUMBER: 60/080334

DR FILING DATE: 1998-04-01

DR APPLICATION NUMBER: 60/081070

DR APPLICATION NUMBER: 60/081049

DR FILING DATE: 1998-04-08

DR FILING DATE: 1998-04-08

DR FILING DATE: 1998-04-08

OR APPLICATION NUMBER: 60/079663
OR APPLICATION NUMBER: 60/079663
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079728
OR FILING DATE: 1998-03-27
IOR APPLICATION NUMBER: 60/079786
IOR APPLICATION NUMBER: 60/079786
IOR APPLICATION NUMBER: 60/079786
IOR APPLICATION NUMBER: 60/079786

R FILING DATE: 1998-03-20
R FILING DATE: 1998-03-20
R FILING DATE: 1998-03-20
R APPLICATION NUMBER: 60,
R AFILING DATE: 1998-03-2

NUMBER: 60/079664 1998-03-27 1998-03-26

60/079689

FILING DATE: 1998-03-25
APPLICATION NUMBER: 60/079656

APPLICATION NUMBER: 60/079294

1998-03-20 1998-03-

60/078939 60/078910

APPLICATION NUMBER:

APPLICATION

NUMBER:

FILING

PRIOR PRIOR

R APPLICATION N R FILING DATE: R APPLICATION N R FILING DATE:

NUMBER: 60/082569 : 1998-04-21

APPLICATION FILING DATE:

PRIOR

R FILING DATE:
A APPLICATION N
FILING DATE:
APPLICATION N
FILING DATE:
APPLICATION N
FILING DATE:
APPLICATION N

NUMBER:

60/081952 60/081838

1998-04-

NUMBER: 60/1: 1998-04-15

60/081819

NUMBER: NUMBER:

60/081817 60/081955

1998-04-15 1998-04-09 1998-04-09

1998-04-15

NUMBER: 60 : 1998-04-1 NUMBER: 60/ : 1998-04-21

60/082568

PRIOR PRIOR

PRIOR

PRIOR

PRIOR PRIOR

PRIOR

R FILING DATE:
APPLICATION N
R FILING DATE:
APPLICATION N
R FILING DATE:
APPLICATION
APPLICATION
APPLICATION N
R FILING DATE:
APPLICATION N

NUMBER: NUMBER:

60/081229 60/081203 60/081195

FILING DATE: 1998-04-08 APPLICATION NUMBER: 60/0

NUMBER: 60/UE: 1998-04-08

APPLICATION

NUMBER: 60/081071

```
RESULT 23
US-09-978-192A-169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 11.8%;
Best Local Similarity 29.4%;
Matches 153; Conservative 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 169, Application US/09978192A Patent No. US20020177553A1
                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                             APPLICANT
                                                                                                                 APPLICANT:
                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLICANT: Ashkenazi, Avi
PLICANT: Baker Kevin P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 GELSSPEYPRPYPKLSSCTYSI---SLEEGFSVILDFV----ESFDVETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GRWFLAGLVSWG-LGCGRPNYFGVYTRITGVISWIQQVVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CPYP-MAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGALLYDNWVLTAAHAVYEQKHDASAL-DIRMGTLKRLS--PHYTQAWSEAVFIHEGYTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQ--VLILGGTTA 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCISLP--KVCD-GQPDCL-NGSDEEQCQEGVPC--GTFTFQCEDRSCVKKPNPQCDGRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN----DGKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CPGEFLCSVNGLCVP--ACDGVKD-----CPNG------LDERNCVCRATFQCKEDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIQNRR-----LCGLRILQPYAERIPVVATAGITINFTSQISLTGPGVRVHYGLYNQSDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LQKVDVQLIPQDLCSEAY-----RYQVTPRMLCAGYRKGKKDACQGDSGGPLV-CKALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : | |:||::|:: || :: |: || :: |: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARN 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGALIADRWVITAAHCFQEDSMASTVLWTVFLGKVWQNSRWPGEVSFKVSRLLLHP-YHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DCR-DG----SDEEH----CD--CGLQGPSS--RIVGGAVSSEGEWPWQASLQVRGRHIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KIQTDREEHGPFCG----KTLPHRIETKSNT-VTITFVTDESGDHTGWKIHY--TSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GVLSTPYFPSYYSPOTHCSWHLTVPSLDYGLALWFDAYALRRQKYDLP-----CTQGQW 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSET
Roy, Margaret /
Shelton, David
Stewart, Timot
Tumas, Daniel
Williams, P. M
                                                                                                                                                                                                                                                                                                                                                                                                                            Fong, Successions Gao, Wei-Qiang
                                                                                                                                                                                                                                     Gurney, Austin L.
Hillan, Kenneth J
Kljavin, Ivar J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Filvaroff, Ellen
                                                                                                                                      Paoni,
                                                                                                                                                                                    Napier, Mary A.
                                                                                                                                                                                                                                                                                                                     Grimaldi,
                                                                                                                                                                                                                                                                                                                                           Godowski, Paul
                                                                                                                                                                                                                                                                                                                                                                      Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                 Gerritsen, Mary E.
                                                                                                                                                                                                                                                                                                                                                                                                                    Gerber, Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eaton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Botstein, David
                                                   ni, Nicholas F., Margaret Ann lton, David L. wart, Timothy A.
                                                                                                                                                                 James;
                                                                                                                                                                                                               Sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dan
                                                                                                                                                                                                                                                                                                                   J. Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        v
                                                                                                                                                                                                                                                                                                                                              ٦.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 444; DB 9
Pred. No. 1e-25;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9; Length 802;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31;
                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 09/918585
                                                                                                                                                                                                                                                                                                                                                                                 DR FILING DATE: 1998-03-27

PR APPLICATION NUMBER: 60/079920

PR FILING DATE: 1998-03-30

PR APPLICATION NUMBER: 60/079923

PR FILING DATE: 1998-03-30

PR FILING DATE: 1998-03-30

PR APPLICATION NUMBER: 60/080105

PR APPLICATION NUMBER: 60/080107

PR FILING DATE: 1998-03-31

PR FILING DATE: 1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OR FILING DATE: 1998-03-20
NR APPLICATION NUMBER: 60/079294
OR FILING DATE: 1998-03-25
OR APPLICATION NUMBER: 60/079656
OR FILING DATE: 1998-03-26
OR APPLICATION NUMBER: 60/079664
                                                                                                                                                                                               R APPLICATION NUMBER: (
R FILING DATE: 1998-03
R APPLICATION NUMBER: (
R FILING DATE: 1998-04
R APPLICATION NUMBER: (
                                                                      R FILING DATE: 1998-04
R APPLICATION NUMBER: R
R FILING DATE: 1998-04
R FILING DATE: 1998-04
R FILING DATE: 1998-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION N
FILING DATE:
APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R FILING DATE:
R APPLICATION N
R FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 1998-03-13
APPLICATION NUMBER: 60/078886
FILING DATE: 1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077791
FILING DATE: 1998-03-12
APPLICATION NUMBER: 60/078004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1997-11-13
APPLICATION NUMBER: 60/066364
FILING DATE: 1997-11-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/064249
FILING DATE: 1997-11-03
APPLICATION NUMBER: 60/065311
                                                                                                                                                                                                                                                                                                                                   APPLICATION FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/078936 FILING DATE: 1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 1998-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/077450
FILING DATE: 1998-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 1997-10-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/062250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/077641
                                                   NUMBER: 60/081070
                                                                                                                                                                                                          NUMBER: 60/080328
                                                                                                                                                                                                                                                                                                                                                              NUMBER: 60/080165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER: 60/079689
                                                                                                                      NUMBER: 60/080333
1998-04-01
                                                                        1998-04-01
                                                                                                                                                                                 1998-04-01
                                                                                                                                                                                                                                  1998-04-01
                                                                                                                                                                                                                                                                                                                                      1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1998-03-
                                                                                                                                                                                                                                                                                  1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-03-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-03-20
```

60/080327

60/080194

60/080334

60/079786

60/079663

60/079728

60/078910

/078939

60/077632

```
TITLE OF INVENTION: Secreted and Transmembrane TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: P2630PLC9
CURRENT APPLICATION WITHOUT TO THE PERCENT APPLICATION WITHOUT TO THE PERCENT APPLICATION WITHOUT TO T
     CURRENT APPLICATION NUMBER: US/09/978,192A CURRENT FILING DATE: 2001-10-15
2001-10-
                                                                                                                Polypeptides
                                                                                                                and
                                                                                                                Nucleic
```

```
DR FILING DATE: 1998-04-09
DR APPLICATION NUMBER: 60/081955
DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/081817
DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/081819
DR APPLICATION NUMBER: 60/081819
DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/081952
DR FILING DATE: 1998-04-15
                                                                                                                                                                                                         R FILING DATE: 1998-04-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-04-
R APPLICATION NUMBER: 6
R FILING DATE: 1998-04-
R APPLICATION NUMBER: 6
R APPLICATION NUMBER: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R FILING DATE: 1998-04
R APPLICATION NUMBER: (
R FILING DATE: 1998-04
R APPLICATION NUMBER: (
R APPLICATION NUMBER: (
R FILING DATE: 1998-04
                                                                                                                                                                                                                                                                                                                                                          R APPLICATION N
R FILING DATE:
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R FILING DATE:
R APPLICATION N
R FILING DATE:
                                                                                                                                           FILING DATE: 1998-05
APPLICATION NUMBER:
FILING DATE: 1998-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1998-0. APPLICATION NUMBER: FILING DATE: 1998-0.
FILING DATE APPLICATION
                               FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                               FILING DATE:
                                                                                              FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                            FILING DATE: APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-04-29
APPLICATION NUMBER: 60/083495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 1998-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/082700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 1998-04 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 1998-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 1998-0
                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/083322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/082797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 60/081229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/081203 FILING DATE: 1998-04-09
                                                                                                                                                                                                                                                                                                                                                                           NUMBER: 60/083554: 1998-04-29
                                                                                                                                                                                                                                                             NUMBER: 60/083742
                                                                                                                                                                                                                                                                                                                             NUMBER:
                                                                                                                                                                                                                                                                                                                                                            NUMBER: 60/083558
                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER: 60/083496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER: 60/083336
1998-04-27
                                                                             NUMBER: 60/084639
1998-05-07
                                                                                                                1998-05-07
                                                1998-05-07
                                                                                                                                                1998-05-06
                                                                                                                                                                              1998-05-06
                                                                                                                                                                                                                                              1998-04-30
                                                                                                                                                                                                                                                                              1998-04-29
                                                                                                                                                                                                                                                                                                           1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-04-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-04-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-04-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1998-04-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1998-04-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-08
                                                                                                                                                                                                              1998-05-05
                                                                                                                                                                                                                                                                                                                                             1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-04-29
                                                               60/084640
                                                                                                                                                              60/084441
                                                                                                                                                                                                                                                                                             60/083500
                                                                                                                                                                                                                                                                                                                            60/083559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/083392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/082569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/082568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/081071
                                                                                                                              60/084637
                                                                                                                                                                                              60/084414
                                                                                                                                                                                                                              60/084366
                                                                                                                                                                                                                                                                                                                                                                                                                        60/083545
                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/083499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/082796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/081838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/081195
```

```
В
                                                                         Q
                                                                                                  В
                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                         Qy
                                                                                                                                                     맑
                                                                                                                                                                           Qy
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 29.4
Matches 153; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR
                                                                                                                                                                                                                              411
                                                                                                                                                                                                                                                         493
                                                                                                                                                                                                                                                                                                          449
                                               711
                                                                                                  653
                                                                                                                                                     594
                                                                                                                                                                              469
                                                                                                                                                                                                      547
                       645
                                                                         585
                                                                                                                           526
                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                           394
                                                                                                                                                                                                                                                                                                                                                                                     247
                                                                                                                                                                                                                                                                                                                                                                                                             340
                                                                                                                                                                                                                                                                                                                                                                                                                                     194
764
                                                                                                                                                                                                                                                                                 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R FILING DATE:
R APPLICATION N
R FILING DATE:
R APPLICATION N
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R APPLICATION N
R FILING DATE:
R APPLICATION N
R FILING DATE:
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R APPLICATION N
R FILING DATE:
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R APPLICATION N
FILING DATE:
APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R FILING DATE:
R APPLICATION N
R APPLICATION N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: APPLICATION |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                   GELSSPEYPRPYPKLSSCTYSI---SLEEGFSVILDFV----ESFDVETHPETLCPYDFL
                                                                                                                                                   GGALIADRWVITAAHCFQEDSMASTVLWTVFLGKVWQNSRWPGEVSFKVSRLLLHP-YHE
                                                                                                                                                                                                                                                                                                                                                                           KIQTDREEHGPFCG----KTLPHRIETKSNT-VTITFVTDESGDHTGWKIHY--TSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                           GVLSTPYFPSYYSPQTHCSWHLTVPSLDYGLALWFDAYALRRQKYDLP----
GRWFLAGLVSWG-LGCGRPNYFGVYTRITGVISWIQQVVT
              ERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                              LMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSET
                                                                                                                     DAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARN
                                                                                                                                                                 AGALLYDNWVLTAAHAVYEQKHDASAL-DIRMGTLKRLS--PHYTQAMSEAVFIHEGYTH
                                                                                                                                                                                                                   VCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQ--VLILGGTTA
                                                                                                                                                                                                                                                                                                                                                           TIQNRR-----LCGLRILQPYAERIPVVATAGITINFTSQISLTGPGVRVHYGLYNQSDP
                                               LQKVDVQLIPQDLCSEAY
                                                                                                  EDSHDYDVALLQLDHPVVRSAAVRPVCLPAR--SHFFEPGLHCWITGWGALREGGPISNA
                                                                                                                                                                                                       DCR-DG
                                                                                                                                                                                                                                                         TCISLP-
                                                                                                                                                                                                                                                                               WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN---DGKY
                                                                                                                                                                                                                                                                                                          CPGEFLCSVNGLCVP--ACDGVKD-----CPNG-----
                                                                                                                                                                                                                                                                                                                                 CPYP-MAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DATE:
                                                                                                                                                                                                                                                       -KVCD-GQPDCL-NGSDEEQCQEGVPC--GTFTFQCEDRSCVKKPNPQCDGRP
                                                                                                                                                                                                      SDEEH----CD--CGLQGPSS--RIVGGAVSSEGEWPWQASLQVRGRHIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER: 60/085700: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER: 60/1: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER: 60/
: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-05-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-05-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11.8%; 29.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/085573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/085580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/085579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/085339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/085704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60/085323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60/085338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60/084643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/085697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/085689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/085582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/084627
                                                                                                                                                                                                                                                                                                                                                                                                                                                               81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 444; DB
Pred. No. 1e-2
31; Mismatches
                                                 RYQVTPRMLCAGYRKGKKDACQGDSGGPLV-CKALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a 444;
le-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              200;
802
                      684
                                                                                                                                                                                                                                                                                                          -LDERNCVCRATFQCKEDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 802;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
```

-CTQGQW

393

246

299

448

353

468

644

763

584

652 525 593 410 492

546

86;

Gaps

31;

RESULT 24
US-09-999-832A-169
US-09-999-832A-169
Sequence 169, Application US/09999832A
Description US20020192706A1
Formal Communication US20020192706A1 GENERAL INFORMATION: APPLICANT: Ashkenazi,

```
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 09/918585
PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/999,832A CURRENT FILING DATE: 2001-10-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same FILE REPERENCE: P2630P1C63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOR
TOR
TOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                     OR FILING DATE: 1998-03-11
OR APPLICATION NUMBER: 60/077791
OR FILING DATE: 1998-03-12
OR APPLICATION NUMBER: 60/078004
OR FILING DATE: 1998-03-13
OR APPLICATION NUMBER: 60/078886
OR FILING DATE: 1998-03-20
                                                                                                                                          R FILING DATE: 1998-03-2
R APPLICATION NUMBER: 60,
R FILING DATE: 1998-03-2
R FILING DATE: 1998-03-2
R FILING DATE: 1998-03-2
                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/0 FILING DATE: 1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1998-03 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/065311 FILING DATE: 1997-11-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/064249 FILING DATE: 1997-11-03
                                                                                                                                                                                                                                                          FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                             FILING DATE: 1998-0:
APPLICATION NUMBER:
FILING DATE: 1998-0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077641
         APPLICATION NUMBER: 60/079663
FILING DATE: 1998-03-27
APPLICATION NUMBER: 60/079728
FILING DATE: 1998-03-27
                                                                                                 APPLICATION NUMBER: 60/
FILING DATE: 1998-03-27
                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/066364 FILING DATE: 1997-11-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Paoni, Nicholas F.
Roy, Margaret Ann
Shelton, David L.
Stewart, Timothy A.
Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Baker Kevi
Botstein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Godowski, Paul J.
Grimaldi, J. Christopher
Gurney, Austin L.
Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerber, Hanspeter
Gerritsen, Mary E.
Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wood, William I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Williams, P. Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Napier, Mary A.
Pan, James;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kljavin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ferrara, Napoleon
Filvaroff, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    : 1998-03-11
NUMBET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kevin
                                                                                                                                                                                            1998-03-26
                                                                                                                                                                                                                                                                                    1998-03-20
                                                                                                                                                                                                                                                                                                                               1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dan
                                                                                                                                                                                                                                       .998-03-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in P.
David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/077649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۲.
                                                                                                                       60/079689
                                                                                                                                                                  60/079664
                                                                                                                                                                                                                 60/079656
                                                                                                                                                                                                                                                               60/079294
                                                                                                                                                                                                                                                                                                       60/078939
                                                                                                                                                                                                                                                                                                                                                    60/078910
                                                                                                                                                                                                                                                                                                                                                                                                  60/078936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
                                                                                            PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                        PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                     PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
DR APPLICATION NUMBER: 6
PR FILING DATE: 1998-04-
PR FILING DATE: 1998-04-
PR FILING DATE: 1998-04-
PR APPLICATION NUMBER: 6
PR APPLICATION NUMBER: 6
PR FILING DATE: 1998-04-
PR FILING DATE: 1998-04-
PR FILING DATE: 1998-04-
PR FILING DATE: 1998-04-
PR APPLICATION NUMBER: 6
PR APPLICATION NUMBER: 6
PR APPLICATION NUMBER: 6
PR FILING DATE: 1998-04-
PR APPLICATION NUMBER: 6
PR APPLICATION NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DR FILING DATE: 1998-04-08

DR APPLICATION NUMBER: 60/081203

DR FILING DATE: 1998-04-09

DR APPLICATION NUMBER: 60/081229

DR FILING DATE: 1998-04-09

DR APPLICATION NUMBER: 60/081955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1998-04 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1998-04-01
APPLICATION NUMBER: 60/080328
FILING DATE: 1998-04-01
APPLICATION NUMBER: 60/080333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/080105
FILING DATE: 1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 1998-0
APPLICATION NUMBER:
FILING DATE: 1998-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-03-31
APPLICATION NUMBER: 60/080327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/080107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                             NUMBER: 60/
: 1998-04-29
                                                                                                                                                        NUMBER: 60/0: 1998-04-29
                                                                                                                                                                                                        NUMBER: 60/0: 1998-04-29
                          NUMBER: 60/083545
: 1998-04-29
                                                                  NUMBER: 60/1: 1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                        1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1998-04-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-03-
                                                                                                                                                                                                                                                       1998-04-28
                                                                                                                                                                                                                                                                                                1998-04-27
                                                                                                                                                                                                                                                                                                                                                1998-04-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : 60/079786
)3-27
                                                                                                                                                                                                                                                                                                                                                                     60/082796
                                                                                                                                                                                                                                                                                                                                                                                                                60/082797
                                                                                                                                                                                                                                                                                                                                                                                                                                                             60/082700
                                                                                        60/083499
                                                                                                                                   60/083496
                                                                                                                                                                                  60/083495
                                                                                                                                                                                                                                60/083392
                                                                                                                                                                                                                                                                             60/083322
                                                                                                                                                                                                                                                                                                                          60/083336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/082804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/081049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60/080194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/080165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/079920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/079923
```

```
Q
                                                                                                                                       Qy
                                                                                                                                                                                                     δÃ
                                                 Db
                                                                                                             DЪ
                                                                                                                                                                          В
                                                                                                                                                                                                                                     DЬ
                    δõ
                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                              ry Match
                    411
                                                  493
                                                                                 354
                                                                                                             449
                                                                                                                                            300
                                                                                                                                                                          394
                                                                                                                                                                                                       247
                                                                                                                                                                                                                                     340
                                                                                                                                                                                                                                                             194 GELSSPEYPRPYPKLSSCTYSI---SLEEGFSVILDFV----ESFDVETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                            OR
OR
                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/085580 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 1998-05-07
APPLICATION NUMBER: 60/084643
                                                                                                                                                                                                                                                                                                                                                            APPLICATION
                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/085704
                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/085579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/085582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/085323 FILING DATE: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION |
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/084640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1998-05-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 1998-05-05
APPLICATION NUMBER: 60/084414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/083742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/083500 FILING DATE: 1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/083559 FILING DATE: 1998-04-29
VCEADGEWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQ--VLILGGTTA
                                            TCISLP--KVCD-GOPDCL-NGSDEEQCQEGVPC--GTFTFQCEDRSCVKKPNPQCDGRP
                                                                                                            CPGEFLCSVNGLCVP-
                                                                                                                                                                     TIQNRR-----LCGLRILQPYAERIPVVATAGITINFTSQISLTGPGVRVHYGLYNQSDP
                                                                                                                                                                                                     KIQTDREEHGPFCG----KTLPHRIETKSNT-VTITFVTDESGDHTGWKIHY--TSTAQP 299
                                                                                                                                                                                                                                  GVLSTPYFPSYYSPQTHCSWHLTVPSLDYGLALWFDAYALRRQKYDLP-----CTQGQW 393
                                                                          WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN----DGKY 410
                                                                                                                                       CPYP-MAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGS 353
                                                                                                                                                                                                                                                                                                153;
                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER:
                                                                                                                                                                                                                                                                                                                                                           NUMBER: 60/085697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                      1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1998-05-06
                                                                                                                                                                                                                                                                                                                                                                           1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1998-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1998-04-29
                                                                                                                                                                                                                                                                                                             11.8%; 29.4%;
                                                                                                             ACDGVKD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60/085689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/084598
                                                                                                                                                                                                                                                                                                                                                                                                                      60/085573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60/085700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/085339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60/084627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/085338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/084600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60/084639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/084637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/084441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60/084366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/083558
                                                                                                                                                                                                                                                                                                81;
                                                                                                                                                                                                                                                                                                           Score 444; DB 9
Pred. No. 1e-25;
                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                            -CPNG--
                                                                                                                                                                                                                                                                                                                         9; Length 802;
                                                                                                                                                                                                                                                                                             200;
                                                                                                          ---LDERNCVCRATFQCKEDS
                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                             86;
                                                                                                                                                                                                                                                                                             Gaps
```

448

31;

```
RESULT 25
US-09-978-189-169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                 PRIOR APPLICATION NUMBER: 09/918585
PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/064249
PRIOR FILING DATE: 1997-11-03
PRIOR APPLICATION NUMBER: 60/065311
PRIOR FILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/066364
PRIOR FILING DATE: 1997-11-21
PRIOR FILING DATE: 1997-11-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 169, A Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
              PRIOR
PRIOR
PRIOR
                                                         PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                        TITLE OF INVENTION: Secreted and Transmembrar TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: PEGSOPHCT CURRENT APPLICATION NUMBER: US/09/978,189 CURRENT FILING DATE: 2001-10-15
                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ashkenazi, Avi
APPLICANT: Baker Kevin P
                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       547
                                                      APPLICATION NUMBER:
FILING DATE: 1998-0:
APPLICATION NUMBER:
           FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077641
FILING DATE: 1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ERWFVGGIVSWGSMNCGEAGQYGYYTKVINYIPWIENIIS 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GRWFLAGLVSWG-LGCGRPNYFGVYTRITGVISWIQQVVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LQKVDVQLIPQDLCSEAY-----RYQVTPRMLCAGYRKGKKDACQGDSGGPLV-CKALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGALIADRWVITAAHCFQEDSMASTVLWTVFLGKVWQNSRWPGEVSFKVSRLLLHP-YHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EDSHDYDVALLQLDHPVVRSAAVRPVCLPAR--SHFFEPGLHCWITGWGALREGGPISNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGALLYDNWVLTAAHAVYEQKHDASAL-DIRMGTLKRLS--PHYTQAWSEAVFIHEGYTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DCR-DG----SDEEH-----CD--CGLQGPSS--RIVGGAVSSEGEWPWQASLQVRGRHIC
                                                                                                                                                                                                                                                                                                                                    Tumas, Daniel
Williams, P. M.
Wood, William
                                                                                                                                                                                                                                                                                                                                                                                               Roy, Marga
                                                                                                                                                                                                                                                                                                                                                                              Stewart, Timothy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gurney, Austin L.
Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fong,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Grimaldi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Godowski,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerritsen, Mary E.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Paoni,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Goddard,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gerber,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ferrara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Desnoyers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baker Kevin P
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pan, James;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kljavin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/09978189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US20030004102A1
                                                                                                                                                                                                                                                                                                                                                                                                   Margaret Ann
ton, David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wei-Qiang
NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sherman
                                         NUMBER: 60/077632
1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                 Nicholas
                                                                        1998-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ivar J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Napoleon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Paul
                                                                                                                                                                                                                                                                                                                                                    P. Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ellen
                                                                                     60/077450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J.
                                                                                                                                                                                                                                                                                                                       Transmembrane Polypeptides and Nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       593
```

******			
PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR		, , , , , , , , , , , , , , , , , , ,	
LING DATE PLICATION LING DATE LING DATE PLICATION PLICATION LING DATE LING DATE LING DATE PLICATION PLICATION PLICATION PLICATION PLICATION PLICATION	APPLICATION FILING DATE: APPLICATION	FILING DATE: APPLICATION	APPLICATION FILING DATE: APPLICATION
1998-05-13 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15 1998-05-15	NUMBER: 60/084 1998-05-06 1998-05-07 NUMBER: 60/084	NUMBER: 60/083 1998-04-29 NUMBER: 60/083 1998-04-29 NUMBER: 60/083 1998-04-29 1998-04-29 NUMBER: 60/083 1998-04-30 NUMBER: 60/083 1998-05-05	NUMBER: 60/0 1998-04-22 NUMBER: 60/0 1998-04-22 NUMBER: 60/0 1998-04-22 NUMBER: 60/0 1998-04-23 NUMBER: 60/0 1998-04-23 NUMBER: 60/0 1998-04-28 NUMBER: 60/0 1998-04-28 NUMBER: 60/0 1998-04-28 NUMBER: 60/0 1998-04-28 NUMBER: 60/0
0 7 8 0 8	1441 637 6639 1640 6600 6627 3338	1499 15545 1558 1558 1559 1559 1559 1559 1559	182704 182804 182700 182797 182796 183336 183332 183392

PRIOR PRIOR

PRIOR PRIOR PRIOR PRIOR IOR IOR IOR FRIOR

PRIOR

OR APPLICATION NUMBER: 60/07791
OR APPLICATION NUMBER: 60/07804
OR APPLICATION NUMBER: 60/07804
OR APPLICATION NUMBER: 60/078086
OR FILING DATE: 1998-03-13
OR APPLICATION NUMBER: 60/078936
OR FILING DATE: 1998-03-20
OR APPLICATION NUMBER: 60/078939
OR FILING DATE: 1998-03-20
OR APPLICATION NUMBER: 60/078939
OR FILING DATE: 1998-03-20
OR APPLICATION NUMBER: 60/07924
OR APPLICATION NUMBER: 60/079666
OR FILING DATE: 1998-03-26
OR APPLICATION NUMBER: 60/079666
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079669
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079669
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079669
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079728
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079728
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079920
OR FILING DATE: 1998-03-27
OR APPLICATION NUMBER: 60/079920
OR APPLICATION NUMBER: 60/079920
OR APPLICATION NUMBER: 60/079920
OR APPLICATION NUMBER: 60/080105
OR APPLICATION NUMBER: 60/08033
OR FILING DATE: 1998-03-31
OR APPLICATION NUMBER: 60/08033
OR FILING DATE: 1998-03-31
OR APPLICATION NUMBER: 60/08033
OR APPLICATION NUMBER: 60/08033
OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/08033
OR APPLICATION NUMBER: 60/08033
OR APPLICATION NUMBER: 60/08033
OR APPLICATION NUMBER: 60/08119
OR APPLICATION NUMBER: 60/08129
OR APPLICATION NUMBER: 60/08139
OR APPLICATION NUMBER

PRIOR

PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR

PRIOR PRIOR

IOR IOR IOR

```
δÃ
Search completed: January 23, 2003, 22:25:14 Job time : 21 secs
                                                                                              ₽
                                                                                                                                     Qy
                                                                                                                                                                                     Ър
                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                             ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 11.8%; Score 444; DB 9; Length 802; Best Local Similarity 29.4%; Pred. No. 1e-25; Matches 153; Conservative 81; Mismatches 200; Indels 86; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 1998-05-15
PRIOR APPLICATION NUMBER: 60/085697
                                                                                       585 LMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSET 644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        493 TCISLP--KVCD-GQPDCL-NGSDEEQCQEGVPC--GTFTFQCEDRSCVKKPNPQCDGRP 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    449 CPGEFLCSVNGLCVP--ACDGVKD-----CPNG-----LDERNCVCRATFQCKEDS 492
                                                                                                                                                                                                                                                                          653 EDSHDYDVALLQLDHPVVRSAAVRPVCLPAR--SHFFEPGLHCWITGWGALREGGPISNA 710
                                                                                                                                                                                                                                                                                                          526 DAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARN 584
                                                                                                                                                                                                                                                                                                                                                                    594 GGALIADRWVITAAHCFQEDSMASTVLWTVFLGKVWQNSRWPGEVSFKVSRLLLHP-YHE 652
                                                                                                                                                                                                                                                                                                                                                                                            469 AGALLYDNWVLTAAHAVYEQKHDASAL-DIRMGTLKRLS--PHYTQAWSEAVFIHEGYTH 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                547 DCR-DG----SDEEH----CD--CGLQGPSS--RIVGGAVSSEGEWPWQASLQVRGRHIC 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          411 VCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQ--VLILGGTTA 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 CPYP-MAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGS 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394 TIONER-----LCGLRILOPYAERIPVVATAGITINFTSQISLTGPGVRVHYGLYNOSDP 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   194 GELSSPEYPRPYPKLSSCTYSI---SLEEGFSVILDFV----ESFDYETHPETLCPYDFL 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   354 WDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVN---DGKY 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247 KIQTDREEHGPFCG----KTLPHRIETKSNT-VTITFVTDESGDHTGWKIHY--TSTAQP 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               340 GVLSTPYFPSYYSPQTHCSWHLTVPSLDYGLALWFDAYALRRQKYDLP------CTQCQW 393
                                                                                                                                                                                     LQKVDVQLIPQDLCSEAY-----RYQVTPRMLCAGYRKGKKDACQGDSGGPLV-CKALS 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
```

Ę

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ned:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              number of hits satisfying chosen parameters:
     1549.5
1549.5
1244.5
1244.5
1234.6
470.5
469.5
469.5
469.5
469.5
469.5
469.5
469.5
469.5
469.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
409.5
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
BG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-874-198-2
3758
1 MRLLTLLGLLCGSVATPLGP......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          January 23, 2003, 22:02:56; Search time 37 Seconds (without alignments) 768.994 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         112892 seqs, 41476328 residues
     99.
441.2
337.6
113.0
113.0
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
112.3
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length DB
     GenCore version 5.1.3 (c) 1993 - 2003 Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MASZ_HUMAN
CARR_HUMAN
CARR_HUMAN
CARR_HUMAN
CASL_HUMAN
LEC_TACTR
LFC_CARTO
ET14_MOUSE
ENTK_HUMAN
FA10_CHICK
HPT_RAT
                                                                                                                                                                                            ENTK_PIG
BWP1_MOUSE
FA9_CANFA
BMP1_HUMAN
ENTK_BOVIN
FA9_HUMOSE
HPT_CANFA
FA1_CHUMAN
FA9_CANFA
FA1_CHUMAN
FA9_CAUPO
HPT_ATEGE
HEPS_RAT
FA9_MOUSE
HPT2_HUMAN
FA9_BOVIN
HEPS_MOUSE
PRTC_RABIT
PRTC_RAT
ENTK_MOUSE
FA9_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GVYTKVINYIPWIENIISDF 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112892
Q28661
P31394
P97435
P16293
                                                                                              P00740
P19221
P19006
P10742
P16295
P504217
Q05511
P16294
P00738
P00741
                                                                                                                                                                                                                                                                                                                                                                                         P98063
P19540
P13497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P15156
P09871
Q9y5y6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   000187
p98064
p48740
p00736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P25155
P06866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P28175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                    sus scrofa
mus musculu
canis famil
homo sapien
bos taurus
homo sapien
mus musculu
canis famil
homo sapien
cavia porce
ateles geof
rattus norv
mus musculu
homo sapien
bos taurus
mus musculu
oryctolagus
rattus norv
mus musculu
oryctolagus
rattus norv
mus musculu
oryctolagus
rattus norv
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        carcinoscor
mus musculu
homo sapien
gallus gall
rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  homo sapien
homo sapien
tachypleus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mesocricetu
homo sapien
  sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          h complemen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapien
```

Result No.

71 72 73 74		ى *
352.5 352 352 351 350 350	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0
	11000000000000000000000000000000000000	
707 812 375 321 490	244 244 459 347 347 347 347 461 275 490 490 490 490 490 490 490 490 490 490	<u>,</u>
		_
BMP1_XENLA PLMNUSE PCE_TACTR TRYG_HUMAN TMS2_MOUSE	PAPE	DAT DADIM
P98070 xenopus lae P20918 mus musculu P21902 tachypleus Q9nrra homo sapien Q9jiq8 mus musculu	Py913y Oryccolagus P15296 rattus norv Q991p2 sus scrofa P00737 homo sapien P00735 bos taurus O57460 brachydanio P00735 bos taurus O57460 brachydanio P00739 homo sapien Q6558 mus musculu P16292 oryctolagus P04070 homo sapien P00745 bos taurus P00745 bos taurus P15262 mus musculu P15273 drosophila P00743 bos taurus P15273 drosophila P00743 bos taurus P15275 dermatophag P00745 bos taurus P15275 dermatophag P0352 homo sapien Q9esdi mus musculu P39675 dermatophag Q9nrs4 homo sapien P18292 rattus norv P00747 homo sapien P18292 rattus norv P00747 homo sapien P18292 rattus scrofa P06668 bos taurus P14272 rattus norv P14272 ovis aries	5

## ALIGNMENTS

```
PRINTS; PRO0722; CHYMOTRYPSIN.
SMART; SMO0032; CCP; 2.
SMART; SM00042; CUB; 2.
SMART; SM00042; CUB; 2.
SMART; SM00103; EGF_CA; 1.
SMART; SM0010; ASX_HYDROXYL; 1
PROSITE; PS001180; CUB; 2.
PROSITE; PS01186; EGF_2; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS00134; TRYPSIN_DOM; 1.
PROSITE; PS00134; TRYPSIN_ISER; 1.
                                                                                                                                                                                                          InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR000859; CUB_domain.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR001881; EGF-like.
InterPro; IPR001881; EGF Ca.
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR001436; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Park D., Kim B., Baek K., Yoon J.;

"Structure of human MASP-2 gene.";

Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.

-i- FUNCTION: TRYPSIN PROTEASE THAT PRESUMABLY PLAYS AN IMPORTANT ROLE

IN THE INITIATION OF THE MBL COMPLEMENT ACTIVATION PATHWAY. AFTER

ACTIVATION IT CLEAVES C4 GENERATING C4A AND C4B.

-i- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

-i- SIMILARITY: CONTAINS 2 SUSHI (SCR) DOMAINS.

-i- SIMILARITY: CONTAINS 2 CUB DOMAINS.

-i- SIMILARITY: CONTAINS 1 EGF-LIKE DOMAIN.
                                                                                                                                                                        Pfam;
                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement system, mannan-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thiel S., Vorup-Jensen T., Stover C.M., Poulsen K., Willis A.C., Eggleton P., Hareid K.B.M., Jensenius J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entities requires a or send an email to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. Park D., Kim B., E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 structural gene.";
J. Immunol. 162:3481-3490(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=99192764; PubMed=10092804; Stover C.M., Thiel S., Thelen M.,
                                                                                                                                                                                                                                                                                                               Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Two constituents of the initiation complection activation pathway of complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jensenius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MASP-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Identification and characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.
                                                                                                                                                                                                                                                                                                                                         MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Y09926; CAA71059.1;
; X98400; CAA67050.1;
; Y18287; CAB50735.1;
; Y18286; CAB50733.1;
                                                                                                                                                                                                                                                                                                               605102; -
                                                                                                                                                                   PF00084; sushi; 2.
PF00089; trypsin; 1.
PF00431; CUB; 2.
                                                                                                                                                                                                                                                                                                                                                                P00763;
                                                                                                                                                                                                                                                                                                                       HGNC:6902; MASP2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s requires a license agreement (S an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (JUN-1996)
                                                                                                                                                                                                                                                                                                                                                      1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schwaeble W.J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M., Lynch
                  FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ion of a novel protein lectin-associated seri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complex of the mannan-binding ment are encoded by a single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hansen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schwaeble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vorup-Jensen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Holmskov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Σ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Laursen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protease-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in no way commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on
```

```
Qy
                                  DЪ
                                                 Š
                                                                   Вb
                                                                                 Qγ
                                                                                                  Вþ
                                                                                                                  Qy
                                                                                                                                    DЪ
                                                                                                                                                   Qy
                                                                                                                                                                    뫄
                                                                                                                                                                                  δÃ
                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 684
                                                                                                                                                                                                                                                                            CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                               DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                       ACT_SITE
ACT_SITE
ACT_SITE
ACT_SITE
MOD_RES
DISULFID
                                                                                                                                                                                                                                                                                                                                                       DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                              DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycoprotein;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                       DISULFID
                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrolase;
361
                                  301
                                                 301
                                                                  241
                                                                                                   181
                                                                                                                                    121
                361
                                                                                  241
                                                                                                                   181
                                                                                                                                                    121
                                                                                                                                                                    61
                                                                                                                                                                                    61
                                                                                                                                                                                                    CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPC
       CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                        PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                                                          SALCSGOVFTORSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETL
                                                                                                                                                   YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                    FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                            FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
CSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTS
                                 PYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPA
                                                                   CPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAHAC
                                                                                                  SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETL
                                                                                                                                    YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Complement pathway; Serine process.
                                                                                                                                                                                                                                                                                                                                                                                                                                        483
532
633
158
                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445
                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                              99.7%;
99.7%;
                                                                                                                                                                                                                                                                      75685
                                                                                                                                                                                                                                                                      MW.
                                                                                                                                                                                                                                                                    POTENTIAL.

POTENTIAL.

D >> Y (IN REF. 4).

L -> LCS (IN REF. 3).

G -> E (IN REF. 4).

G -> E (IN REF. 4).

G -> E (IN REF. 4).

G -> L (IN REF. 3).

L -> LIL (IN REF. 3).

L -> LIL (IN REF. 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SERINE PROTEASE.
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
                                                                                                                                                                                                                                    Score 3745; D
Pred. No. 5.2e
0; Mismatches
                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CUB 1.
EGF-LIKE,
                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
INTERCHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                        HYDROXYLATION (POTENTIAL). POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MANNAN-BINDING CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MANNAN-BINDING
                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease; Protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CALCIUM-BINDING
                                                                                                                                                                                                                                   5.2e-274;
                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL).
                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LECTIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LECTIN
LECTIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SERINE SERINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SERINE PROTEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydroxylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL).
                                                                                                                                                                                                                                                     686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEASE
PROTEASE
                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                    120
                420
                                                                                                                                                                    120
                                                                                                                                                    180
                                                                                                                                                                                                    60
                                 360
                                                 360
                                                                 300
                                                                                  300
                                                                                                  240
                                                                                                                  240
                                                                                                                                    180
                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Þ
                                                                                                                                                                                                                                     0;
```

421

SKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLT

is not removed

Usage

ьy

and for commercial

(See

http://www.isb-sib.ch/announce/

```
MEDLINE-93176166; PubMed-8439319;
Takahashi A., Takayama Y., Hatsuse H., Kawakami M.;
Presence of a serine protease in the complement-activating component
of the complement-dependent bactericidal factor, RaRF, in mouse
                                                                                                                                                                                                                                                                                                                                                                                                                      MASPI OR CRAm.
MASPI OR CRAm.
Mus musculus (Mouse).
Mus musculus (Motazoa; Chordata; /
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                            serum.";
Biochem. Biophys. Res.
-!- FUNCTION: COMPONENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P98064;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-94179811; PubMed-813
                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Complement-activating composition (EC 3.4.21.-) (Ra-reactive
                                                                                                                                                                                                                                                                                       STRAIN-BALB/c;
                                                                                                                                                                                                                                                                                                SEQUENCE OF 465-704 FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                Takayama Y.,
                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRAR_MOUSE
                                                                                                                                                                                                                                                                                                                                            factor is a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Mannan-binding lectin serine protease 1). MASP1 OR CRARF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                                                                                                DLINE-9417941, Factor.

kayama Y., Takada F., Takahashi A., Kawakamı m.;

100-kDa protein in the C4-activating component of Ra-reactive module organization similation for a new serine protease having module organization similation.
                                                                                                                                                                                                                                                                                                                       Immunol. 152:2308-2316(1994).
                                                                                                                                                                                                                                                                                                                           and Cls.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                                                                                                        TISSUE-Liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                           PubMed=8133044;
                                                                                                                                                                                                                                                                                                                                                                                                AND PARTIAL
                                                                                                                                                                                                            . Commun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   component of Ra-reactive factive factor serine protease
                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                 AND
                                                                                                                                                                                                                     190:681-687(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              686
                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE.
                                                                                                                                                                                                                                                                                                 PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    704
                                                                                                                                                                                                                                                                                                                                                                                                                                         Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor precursor see p100) (RaRF)
                                                                                                                                                                                                                                                                                                                                                                                                                                Murinae;
                                                                                                                                                                                                                                                                                                                                           similar
                                                                                                                                                                                                                                                                                                                                                                                                                                Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                           ť
                                                                                                                                                                                                 ВУ
                                                                                       В
                     Qy
                                          Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam;
    32
                       26
            MFGQIQSPGYPDSYPSDSEVTWNITVPEGFRIKLYFMHFNLESSYLCEYDYVKVETEDQV
```

δÃ В Ş 밁 ş 밁 Ş 밁

```
SMART; SMOOULZ; CUB; 2.

SMART; SMOOULZ; CUB; 2.

SMART; SMOOULZ; TYP_SPC; 1.

SMART; SMOOULZ; TYP_SPC; 1.

PROSITE; PSOOULB; ASX_HYDROXYL; 1

PROSITE; PSO1186; EGF_2; 1.

PROSITE; PSO1187; EGF_CA; 1.

PROSITE; PSO1240; TRYPSIN_DOM; 1.

PROSITE; PSO134; TRYPSIN_HIS; 1.

PROSITE; PSO0135; TRYPSIN_EER; 1.

PROSITE; PSO0135; TRYPSIN_EER; 1.

PROSITE; PSO0135; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGD; MGI:88492; Masp1.
InterPro; IPR000152; A
InterPro; IPR000153; A
InterPro; IPR001314; C
InterPro; IPR000561; E
InterPro; IPR001881; E
                                                                           CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART;
SMART;
SMART;
SMART;
                                                                                                                       DISULFID DISULFID
                                                                                                                                            DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                  DISULFID DISULFID
                                                                                                                                                                                                                                    ACT_SITE
MOD_RES
DISULFID
                                                                                                                                                                                                                                                                   ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00089; trypsin; 1.
pfam; PF00431; CUB; 2.
PRINTS; PF00722; CEHMOTRYPSIN.
SMART; SM00032; CCP; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         modified and this statement is not removentities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein;
SIGNAL
                                             SEQUENCE
                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS;
                                                                   CARBOHYD
                                                                                                  DISULFID
                                                                                                               DISULFID
                                                                                                                                                                             DISULFID
                                                                                                                                                                                         DISULFID
                                                                                                                                                                                                                         DISULFID
                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001254;
InterPro; IPR000436;
 y Match
Local Si
hes 295;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00084; sushi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P00736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D16492; BAA03944.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S01
            Similarity
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IAPQ.
                                                                                                                                                                                                                                                                                                                                                                                                                  Sushi;
                                             ΑA;
                                  54
183
390
412
79895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Masp1
                                                                                                  704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Asx_hydroxyl.
CUB_domain.
Chymotrypsin.
           41.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                  Repeat;
  129;
                                             WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Like.
                                          INTERCHAIN (POTENTIAL).
POTENTIAL.
POTENTIAL.
N-LINKED (GLCNAC. . .)
Score 1549.5; DB 1
Pred. No. 6.7e-109;
9; Mismatches 212;
                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                        SERINE PROTEAS
CHARGE RELAY S
CHARGE RELAY S
                                                                                                                                                                                                                                                                                                     CUB 1.
EGF-LIKE,
CUB 2.
SUSHI 1.
SUSHI 2.
                                                                                                                                                                                                                                                                                                                                                                                                                Signal;
                                                                                                                                                                                                                                                                                                                                                                       RA-REACTIVE
70 KDA CHAIN
                                                                                                                                                                                                                                                                                                                                                                                             COMPLEMENT - ACTIVATING
                                                                                                                                                                                                                                                                                                                                                                                                                             Serine
                                                                                                                                                                                                                                                         PROTEASE.
RELAY SYSTEM
RELAY SYSTEM
RELAY SYSTEM
                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                  e protease;
EGF-like do
                                                                                                                                                                                                                                                                                                                                       CALCIUM-BINDING
                                                                                                                                                                                                                                                                                                                                                           E FACTOR.
IN OF P10
                                                                                                                       (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                           P100
                                                                                                                                                                                                                                                                                                                                                                                                                  domain; Hydroxylation
                      Ļ.
                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                             Protease;
                                                                                                                                                                                                                                                         (BY
(BY)
(BY)
                                                                                                                                                                                                                                                                                                                                                           (P70).
(P29).
 Indels
                                                                                                                                                                                                                                                                                                                                                                                              COMPONENT
                    Length
                                                     (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                        Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                       704;
 53;
                                                                                                                                                                                                                                                                                                                                                                                              õ
Gaps
 15;
```

```
CRAR_HUMAN

P48740; 095570; 09UF09;

p1-FEB-1996 (Rel. 33, Created)

16-CCT-2001 (Rel. 40, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Complement-activating component of Ra-reactive factor precursor

DE (EC 3.4.21.-) (Ra-reactive factor serine protease p100) (RaRF)

DE (Mannan-binding lectin serine protease 1) (Mannose-binding protein associated serine protease) (MASP-1).

**Sociated Serine protease) (MASP-1).
     RESULT 3
CRAR_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                      TISSUE=LIVEr;
MEDLINE=94059062; PubMed=8240317;
Takada F., Takayama Y., Hatsuse H., Kawakami M.;
Takada F., Takayama Y., Hatsuse H., Kawakami M.;
"A new member of the Cls family of complement proteins found bactericidal factor, Ra-reactive factor, in human serum.";
bacterioidal factor, Res. Commun. 196:1003-1009(1993).
   SEQUENCE FROM
TISSUE=Fetal
                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                     Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTLHSSYLLSPSDFKIIMGKHWRRRSDEDEQHLHVKRTTLHPLY-NPSTFENDLGLVELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SWGE-DCGKKDRYGVYSYIYPNKDWIQRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SWGSMNCGEAGQYGVYTKVINYIPWIENI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKVVINSNITPICLPRKEAESFMRTDDIGT---ASGWGLTQRGFLAR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GRIYGGQKAKPGDFPWQVLIL----GGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTYKSEIRYSCQQPYYKMLHNTTGVYTCSAHGTWTNKVLKRSLPTCLPVCGVPKFSRKQI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTYKAVIOYSCEETFYTMKVN-DGKYVCEADGFWTSSKGEKSLPVCEPVCGLS--ARTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSCDTGYKVLKDNGVMDTFQIECLKDGAWSNKIPTCKIVDCGAPAGLKHGLVTFSTRNNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PISTQTHSVQILFRSDNSGENRGWRLSYRAAGNECPKLQPPVYGKIEPSQAVYSFKDQVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NSDTCQEAY -- TPLKK - KVTKDMICAGEKEGGKDACAGDSGGPMVTKDAERDQWYLVGVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESPRINDFVMPVCLPEQPSTE-----GTMVIVSGWG---KQFLQRFPENLMEIEIPIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTLKR---LSP-----HYTQAWSE-----AVFIHEGYTHDAGFDNDIALIKLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SRIFNGRPAQKGTMPWIAMLSHLNGQPFCGGSLLGSNWVLTAAHCLHQ-----SLDPEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PKSSECSYTIDLEEGFMVSLQFEDIFDIEDHPEVPCPYDYIKIKAGSKVWGPFCGEKSPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVA 145
                    N.A.
                                                                                                                                                                                                                     Primates;
                                                                                                                                                                                                                   Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             682
                                                                                                                                                                                                                     Hominidae;
                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -NLMYVDIPIV
                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265
   EMBL, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This
AB007609;
AB007610;
AB007611;
```

BAA89206

JOINED.

```
TISSUE-Placenta;
TISSUE-Placenta;
MEDLINE-97079701; PubMed-8921412;
Endo Y., Sato T., Matsushita M., Fujita T.;
Endo Y., Sato T., Matsushita M., Fujita T.;
"Exon structure of the gene encoding the human mannose-binding protein-associated scrine protease light chain: comparison witlengtherent Clr and Cls genes.";
complement Clr and Cls genes.";
Tnt. Immunol. 8:1355-1358(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                **Sato T., Endo Y., Matsushita M., Fujita T.;

**Molecular characterization of a novel serine protease activation of the complement system by mannose-binding Int. Immunol. 6:665-669(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long a modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

MEDLINB=99402590; PubMed=10475605;

MEDLINB=99402590; PubMed=10475605;

Takayama Y., Takada F., Nowatari M., Kawakami M., Matsu-ura P.

Tenes structure of the P100 serine-protease component of the reactive factor.";

Tenestive factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMMUNOI. COMPONENT OF THE BACTERICIDAL RA-REACTIVE FACTOR RARE FUNCTION: COMPONENT OF THE BACTERICIDAL RA-REACTIVE FACTOR RARE WHICH SPECIFICALLY BINDS TO RA AND R2 POLYSACCHARIDES EXPRESSED B CERTAIN ENTEROBACTERIA. IT TRIGGERS THE ACTIVATION OF COMPLEMENT CASCADE BY ACTIVATING THE C4 AND C2 COMPONENTS. IT ACTIVATES THE C4 COMPONENT BY CLEAVING THE ALPHA-CACTIVATING COMPONENT GY CLEAVING THE ALPHA-CACTIVATING COMPONENT (CRARE) AND A POLYSACCHARIDE-BINDING (MANNOSE-BINDING) COMPONENT. CRARE IS AN HETERODIMER OF A HEAVY (P70) AND A LIGHT CHAIN (P29)
L; AB010822; BAA34864.1; JOINED.
L; AB010813; BAA34864.1; JOINED.
L; AB010814; BAA34864.1; JOINED.
L; AB010815; BAA34864.1; JOINED.
L; AB010816; BAA34864.1; JOINED.
L; AB010817; BAA34864.1; JOINED.
L; AB010818; BAA34864.1; JOINED.
L; AB010820; BAA34864.1; JOINED.
L; AB010821; BAA34864.1; JOINED.
L; AB010821; BAA34864.1; JOINED.
L; D61690; BAA34864.1; JOINED.
L; D61691; BAA34864.1; JOINED.
L; D61692; BAA34864.1; JOINED.
L; D61693; BAA34864.1; JOINED.
L; D61694; BAA89206.1; JOINED.
L; D61694; BAA89206.1; JOINED.
L; AB007602; BAA89206.1; JOINED.
L; AB007603; BAA89206.1; JOINED.
L; AB007604; BAA89206.1; JOINED.
L; AB007605; BAA89206.1; JOINED.
L; AB007606; BAA89206.1; JOINED.
L; AB007606; BAA89206.1; JOINED.
L; AB007607; BAA89206.1; JOINED.
L; AB007608; BAA89206.1; JOINED.
L; AB007606; BAA89206.1; JOINED.
L; AB007607; BAA89206.1; JOINED.
L; AB007608; BAA8920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LINKED BY A DISULFIDE BOND.

DOMAIN: CRARF HAS A MODULE ORGANIZATION SIMILAR
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
SIMILARITY: CONTAINS 2 SUSHI (SCR) DOMAINS.
SIMILARITY: CONTAINS 2 CUB DOMAINS.
SIMILARITY: CONTAINS 1 EGF-LIKE DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D28593; BAA05928.1;
D61695; BAA34864.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D17525; BAA04477.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rmatics Institute. There are no rest institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comparison with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C1R AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Z
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C1S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ra-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВУ
```

```
Pfam; PF00084; Sushi; 2.

Pfam; PF00089; trypsin; 1.

Pfam; PF00431; CUB; 2.

Pfam; PF00431; CUB; 2.

Pfam; PF00431; CUB; 2.

SMART; SM00032; CCP; 2.

SMART; SM000032; CCP; 2.

SMART; SM00101; EGF; 1.

SMART; SM001019; EGF_CA; 1.

SMART; SM001010; ASX_HVDROXYL; 1.

PROSITE; PS001180; CUB; 2.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.
     CARBOHYD
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                           CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                           DOMAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
ACT_SITE
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MIM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AB007612;
AB007613;
AB007614;
AB007615;
AB007616;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P00736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HGNC:6901; MASP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; IPRO00152;
; IPRO00859;
; IPRO01314;
; IPRO01561;
; IPRO01881;
; IPRO01254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR000436;
     IAPQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BAA89206.
BAA89206.
BAA89206.
BAA89206.
BAA89206.
     5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

5522

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; EGF_Ca.
; Ser_protease_Try.
; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Asx_hydroxyl.
CUB_domain.
Chymotrypsin.
EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
Q-> E (IN REF. 1)
A-> G (IN REF. 3)
K-> G (IN REF. 3)
C-> X (IN REF. 3)
D-> Y (IN REF. 3)
Q-> X (IN REF. 3)
                                                                                                                                                                                                                                                                                                                                                                                       RA-REACTIVE FACTOR.
70 KDA CHAIN OF P100 (P70).
29 KDA CHAIN OF P100 (P29).
CUB 1.
EGF-LIKE, CALCIUM-BINDING (CUB 2.
SUSHI 1.
SUSHI 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOINED.
JOINED.
JOINED.
JOINED.
                                                                                                                                                                                                                                                                                                                                      SERINE PROTEASE.
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
                                                                                                                                                                                      POTENTIAL.
                                                                                                                                                             INTERCHAIN POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
COMPLEMENT-ACTIVATING
                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                        HYDROXYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EGF-like do
                                                                                                                                                                           (POTENTIAL).
                                                                                                                                                                                                                                                                                                                         (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protease
                                                                                                                                                                                                                                                                                                                                   (BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (P70).
(P29).
                                                                                             (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPONENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hydroxylation
                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QF
OF
  RESULT 4
C1R_HA
ID CUR,H
ID CUR,H
AC P0073
DT 21-JU
DT 115-JU
DT 15-JU
DE Compl
GN C1R.
OS Homo
OC Eukar
OC Mammad
OX NCBI,R
RN [1]
RN [1]
RN SEQUE
RX MEDLI
RA Leytu
                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           당.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Sin
Matches 300;
                                                                                                                                 C1R_HUMAN
P00736;
21-JUL-1986
01-AUG-1988
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
SEQUENCE
                                                                                                           Complement
C1R.
SEQUENCE FROM N.A. MEDLINE-87026566; Leytus S.P., Kurac
                                                                  Homo sapiens (Human
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                        645
                                                                                                                                                                                                                                                                                                          591
                                                                                                                                                                                                                                                                                                                                                                                       523
                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                    86 (Rel. 01, Crea
88 (Rel. 08, Last
02 (Rel. 41, Last
t Clr component p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     643
699 AA;
 5566; PubMed=3021205;
Kurachi K., Sakarias
                                                                                             (Human)
                                                                                                                                                                                      STANDARD;
                                                                                                                                   01,
08,
41,
                                                               Chordata;
Primates;
                                                                                                           ., Created)
d, Last sequence update)
1, Last annotation update
- ~ ~ ~ ~ CE 3.4.2
```

```
1 MRLLTLLGLLCGSVATPLGPKWP-EPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRL
MRWLLLYYALCESLSKASAHTVELNNMFGQIQSPGYPDSYPSDSEVTWNITVPDGFRIKL
                                                               ---KQFLQREPETLMETETPIVDHSTCQKAY--APLKK-KVTRDMICAGEKEGGKDACAG
                                                                              LTQRGFLAR---NLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRG
                                                                                                                              VKHTTLHPQYDPNTFENDVALVELLESPVLNAFVMPICLP---
                                                                                                                                                                                           GSSWIVTAAHCLHQ-----SLDPKDPTLRDSDLLSPSDFKIILGKHWRLRSDENEQHLG
                                                                                                                                                                                                              YDNWVLTAAHAVYEQKHDASALDIRMGTLK---RLSP-------HYTQAWSEAVFIHEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCPYDYIKIKVGPKVLGPFCGEKAPEPISTQSHSVLILFHSDNSAENRGWRLSYRAAGNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LCPYDELKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRVECSDNLFTQRTGVITSPDFPNPYPKSSECLYTIELEEGFMVNLQFEDIFDIQDHPEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFSNEERFTGFDAHYMAVDVDECKEREDEELSCDHYCHNYIGGYYCSCRFGYILHTDNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DYSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YEMHENLESSYLCEYDYVKVETEDQVLATFCGRETTDTEQTPGQEVVLSPGSFMSITERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRS
                                                                                                                                                            YTHDA------GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          643
79258 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1544;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -> S (IN REF. 1). ADD9697AE6AB01B5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; DB 1;
1.7e-108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
                                                                                                                            -EGPQQEGAMVIVSGWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                      418
                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                               644
                                                                                             631
                                                                                                                            590
                                                                                                                                                            574
                                                                                                                                                                                          534
                                                                                                                                                                                                                           522
                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14;
```

Sakariassen

K.S.,

Davie

Craniata; Vertebrata; | Catarrhini; Hominidae;

Euteleostomi;

te)

```
EMBL;
PIR;
                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-87241248; PubMed-3036070; Arlaud G.J., Willis A.C., Gagnon J.; "Complete amino acid sequence of the A chain classical-pathway enzyme Clr."; Biochem. J. 241:711-720(1987).
                                                         entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                Biochemistry 37:1204-1214(1998).
-!- FUNCTION: CIR B CHAIN IS A SERINE PROTEASE
AND C1S TO FORM C1, THE FIRST COMPONENT OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Identification of erythro-beta-hydroxyasparagine domain of human Clr."; FEBS Lett. 222:129-134(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arlaud G.J., Gagnon J.; "Complete amino acid sequence of the complement subcomponent Cl-r."; Biochemistry 22:1758-1764(1983).
                                                                                     modified and
                                                                                                                                                                                                                                                                                          -
                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRUCTURE BY NMR OF 140-192.
MEDLINE=98138432; PubMed=9477945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arlaud G.J., van Gagnon J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 152-186, AND HYDROXYLATION MEDLINE=88005128; PubMed=2820791;
                            EMBL;
                                                                                                                     the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                       -
                                                                                                                                                                                                                                                                                                                                                                                                             of human complement protease
                                                                                                                                                                                                                                                                                                                                                                                                                                            Bersch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEBS Lett.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arlaud G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 133-137; 187-211 AND 609-613, MEDLINE=96221263; PubMed=8635594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=83204782; PubMed=6303394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 464-705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 18-463.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Journet A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-87156625;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Nucleotide sequence of the cDNA coding for human complement Clr.", Biochemistry 25:4855-4863(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Identification of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pelloux S., Thielens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning and sequencing of full-length human complement component Clr.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    interaction.
                                                                                                                                                                                                                                                                                                                                                                                                                         Sersch B., Hernandez J.-F., Marion D., Solution structure of the epidermal g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human complement protease teraction.":
                                                                                                                                                                                                                                        OF THE COMPLEMENT SYSTEM.

CATALYTIC ACTIVITY: ACTIVATES C1S BY PROTEOLYTIC CLEAVAGE SO CATALYTIC ACTIVITY: ACTIVATE C2 AND C4.

THAT IT CAN, IN TURN, ACTIVATE C2 AND C4.

SUBUNIT: C1 IS A CALCIUM-DEPENDENT TRIMOLECULAR COMPLEX OF C1Q, R SUBUNIT: C1 IS A CALCIUM-DEPENDENT TRIMOLECULAR COMPLEX OF C1Q, R AND S IN THE MOLAR RATION OF 1:2:2. C1R IS A DIMER OF IDENTICAL CHAINS, EACH OF WHICH IS ACTIVATED BY CLEAVAGE INTO TWO CHAINS, AND B, CONNECTED BY DISULFIDE BONDS.
                                                                                                                                                                                SIMILARITY: SIMILARITY:
                                                                                                                                                                                                              SIMILARITY: SIMILARITY:
                                                                                                                                SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation
A24170;
              X04701; CAA28407.1;
M14058; AAA51851.1;
                                                                                       non-profit institu
and this statement
                                                                                                                                                                             CONNECTED BY DISULFIDE BONDS.

RRITY: BELONGS TO PEPTIDASE FAMILY S1.

RRITY: CONTAINS 2 SUSHI (SCR) DOMAINS.

RRITY: CONTAINS 2 CUB DOMAINS.

ARITY: CONTAINS 1 EGF-LIKE DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  386:15-20(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240:783-787(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tosi M.;
 C1HURB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dorsselaer A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PubMed=3030286
                                                                                       institutions as long as its content atement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hudry-Clergeon G., Petillot Y., Filhol O.,
                                                                                                                                                                                                                                                                                                                                                                                                      Marion D., Arlaud G.J.; pidermal growth factor (EGF)-like mopidermal growth factor (EGF)-like mopile.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein kinase CF
Clr, and its use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bell A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         catalytic
                                                                       (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA encoding
                                                                                                                There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mancini M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CK2 phosphorylation site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                 THAT COMBINES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                probe intramolecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Aude
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of human
                                                                                                                     restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complement-
                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  precursor
                                                                              is
is
                                                                                                                                                                                                                                                                                                                                                   PATHWAY
                                                                                                                                                                                                                                                                                                                                                                 HTIW
                                                                         .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                           module
                                                                                                     ıπ
                                                                                                                                                                                                                                                                                                                                                               ClQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of
                                                                                                                     g
                                                                                                     no
                                                                                                    way
```

```
Db
             QΥ
                                                                  Query Match
Best Local
                                 Matches
                                                                                                                                                                                                   CARBOHYD
CARBOHYD
CARBOHYD
                                                                        DISULFID CONFLICT
                                                                                         DISULFID DISULFID
                                                                                                         DISULFID DISULFID
                                                                                                                          DISULFID DISULFID
                                                                                                                                                                                  CARBOHYD
DISULFID
                                                                                                                                                                                                                                           ACT_SITE
                                                                                                                                                                                                                                                          DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                    DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00722; CHYMOTRYPSIN SMART; SM00032; CCP; 2. SMART; SM00042; CUB; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam;
                                                                  SEQUENCE
                                                                                                                                           DISULFID
                                                                                                                                                  DISULFID
                                                                                                                                                            DISULFID
                                                                                                                                                                   DISULFID
                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                     MOD
                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                      SIGNAL
                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00134; TRYPSIN_HIS; PROSITE; PS00135; TRYPSIN_SER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genew;
                                                                                                                                                                                                                           MOD_RES
                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                             EGF-like
                                                                                                                                                                                                                                                                                                                                                     Hydroxylation; Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MIM; 216950;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEROPS;
Н
                -
        MRLLTLL--GLLC---GSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1APQ; 17-SEP-97.
PS; S01.192; -.
MWLLYLLVPALFCRAGGSI--PI----PQKLFGEVTSPLFPKPYPNNFETTTVITVPTGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00431; CUB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00084;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HGNC:1246; C1R.
                                                                                                                                                                                                                                                                                                                                                                                                                                      SM00179; EGF_CA; 1.
SM00020; Tryp_SPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM00032; CCP;
SM00042; CUB;
                                                                                                                                                                                                                                                                                                                                                                                   ; PS00010; ASX_HYDROXYL;

; PS001180; CUB; 2.

; PS00022; EGF_1; FALSE_N

; PS00186; EGF_2; 1.

; PS01187; EGF_CA; 1.

; PS50240; TRXPSIN_DOM; 1
                                       Similarity
                                                                                                                                                                                                                                                                                                                                             domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000152; Asx_hydroxyl.
IPR000859; CUB_domain.
IPR001314; Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR001254; Ser_protease_Try.
IPR000436; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IPR001881;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IPR000561;
                                                                                                                                                                                                                                                                                                                                                              pathway; Plasma;
                                                                                                                                                                                                                                                                   142
142
193
308
375
                                 Conservative
                                                                  AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sushi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     trypsin; 1.
                                                                                                                                                                                                                                                                                                                                             3D-structure
                                       37.6%;
41.7%;
                                                                 80173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EGF_Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                             FALSE_NEG
                                 108;
                                                                  X
X
                              Score 1412; DI
Pred. No. 1.5e
08; Mismatches
                                                                                                                                                                                                                                                                                                                                                             Glycoprotein;
                                                                        POTENTIAL.
S -> L (IN
                                                                                                         PROBABLE.
PROBABLE.
PROBABLE.
PROBABLE.
PROBABLE.
                                                                                                                                                                                   N-LINKED
PROBABLE.
                                                                                                                                                                                                            N-LINKED
                                                                                                                                                                                                                                                            SERINE
CHARGE
                                                                                                                                                                                                                                                                                    SUSHI
                                                                                         INTERCHAIN POTENTIAL.
                                                                                                                                                  PROBABLE
                                                                                                                                                                                                    N-LINKED
                                                                                                                                                                                                                           PHOSPHORYLATION (BY CK2).
                                                                                                                                                                                                                                     HYDROXYLATION
                                                                                                                                                                                                                                            CHARGE
                                                                                                                                                                                                                                                    CHARGE
                                                                                                                                                                                                                                                                                                    EGF-LIKE,
                                                                                                                                                                                                                                                                                                                     COMPLEMENT
                                                                                                                                                                                                                                                                                                                              COMPLEMENT
                                                                 -> L (IN REF. 2).
5CBCCC0201061463 CRC64;
                                                                                                                                                                                                                                                                                                                                                                            FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                     Sushi; Repeat;
                                                                                                                                                                                                                                           E RELAY SYSTEM.
E RELAY SYSTEM.
                                                                         (IN
                                                                                                                                                                                                                                                                   PROTEASE
                                                                                                                                                                                               D (GLCNAC...).
D (GLCNAC...).
D (GLCNAC...).
                                                                                                                                                                                           (GLCNAC. .
                                                                                                                                                                                                                                                                                                    CALCIUM-BINDING
                                                                                                                                                                                                                                                                                                                     C1R HEAVY CHAIN.
                                                                                                  (PROBABLE)
                                       .5e-98;
                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                    Serine protease; peat; Signal;
                                 248;
                                               Length
                                 Indels
                                                                                                                                                                                                                                                                                                    (POTENTIAL).
                                                 705;
                                 64;
                                                                                                                                                                                                                                                                                                                                                              Hydrolase;
                                Gaps
                55
54
```

δÃ

56

RLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDI 115

22;

```
δÃ
                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                В
                                                                                                                                           MESAU

CASP_MESAU

CASP_MESAU

CASP_MESAU

O1-APR-1990 (Rel. 14, Created)
O1-APR-1990 (Rel. 14, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Calcium-dependent serine proteinase precursor
Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertek
Mammalia; Eutheria; Rodentia; Sciurognathi; Mesocricetus.

Mesocricetus.
Kinoshita H., Sakiyama H., Tokunaga K., Imajoh-Ohmi S., Hamada Y. Isono K., Sakiyama S.;
"Complete primary structure of calcium-dependent serine proteinas capable of degrading extracellular matrix proteins.";
FEBS Lett. 250:411-415(1989).
-I- FUNCTION: CAPABLE OF DEGRADING EXTRACELLULAR MATRIX PROTEINS. CASP DEGRADES TYPE I AND IV COLLAGEN AND FIBRONECTIN IN THE PRESENCE OF CALCIUM.
                                                                                         TISSUE=Fibroblast;
MEDLINE=89325606; PubMed=2753140;
                                                                                                             SEQUENCE FROM N.A.,
                                                                                                                                   NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55
                                                                                                                                                                                                                                                                                                  ~
                                                                                                                                                                                                                                                                                                                      Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                        PHYTQAMSEAVFIHEGYTHDA--GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDA---SALDIRMG-----TLKRLS :||:|| | :||:|| :||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            V-----NDGKYVCEADGFW-TSSKGEKSLPVCEPVCG--LSARTTGGRIYGGQKAKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAVCQDDGTWHRAMPRCKIKDCGQPRNLPNGDFRYTTMGVNTYKARIQYYCHEPYYKMQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HTGWKIHYTSTAQPCPYPMAPPN-GHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DFVESFDVETHPETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGD
                                                                                                                                                                                                                                                                                                                                         GHPSLKQDACQGDSGGVFAVRDPNTDRWVATGIVSWG-IGCSRG--YGFYTKVLNYVDWI
                                                                                                                                                                                                                                                                                                                                                             GLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                    GLMGYVSGFGVMEEK-IAHDLRFVRLPVANPQAC
                                                                                                                                                                                                                                                                                                                                                                                                                             NHPIR----RVSVHPDYRQDESYNFEGDIALLELENSVTLGPNLLPICLP--DNDTFYDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NFPWQVFTNIHGRGGGALLGDRWILTAAHTLYPKEHEAQSNASLDVFLGHTNVEELMKLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRAGSRESEQGYYTCTAQGIWKNEQKGEK-IPRCLPVCGKPVNPVEQRQRIIGGQKAKMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SRGWKLRYTTEIIKCPOPKTLDEFTIIONLOPQYOFRDYFIATCKOGYQLIEGNQYLHSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KFLEPFDIDDHQQVHCPYDQLQIYANGKNIGEFCGKQRPPDLDTSSNAVDLLFFTDESGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RVKLVFQQFDLEPSEGCFYDYVKISADKKSLGRFCGQLGSPLGNPPGKKEFMSQGNKMLL
                                                                                                                                                                                                                                                                                                                                                                                                       DDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS-----VTANMLCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SCRPGYELQEDRHSCQAECSSELYTEASGYISSLEYPRSYPPDLRCNYSIRVERGLTLHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SCRAGYVLHRNKRTCSALCSGQVETQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TFHTDFSNEENGTIMFYKGFLAYYQAVDLDECASRSKSGEEDPQPQCQHLCHNYVGGYFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TFRSDYSNEKP - - - - FTGFEAFYAAEDIDEC - - QVAPGE - - - APTCDHHCHNHLGGFYC
                                                                                                                                                                                                                                                                                                698
                                                                                                              AND
                                                                                                              SEQUENCE
                                                                                                                                                       Craniata; Vertebrata;
Sciurognathi; Muridae
                                                                                                              QF,
                                                                                                                                                                                      precursor
                                                                                                              22-50
                                                                                                                                                                                                 update)
                                                                                                             AND
                                                                                                                                                        Muridae;
                                                                                                                                                                                                                                                                                                                                                                                  ENWLRGKNRMDVFSQNMFCA
                                                                                                                                                                                       (E)
                                                                                                                                                                                     3.4.21.-) (CASP)
                                                                                                                                                                   Euteleostomi;
                                                                                                                                                       Cricetinae;
                                                         proteinase
                                                                                                                                                                                                                                                                                                                                                              679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            114
                                                                                                                                                                                                                                                                                                                                                                                  640
                                                                                                                                                                                                                                                                                                                                                                                                       619
                                                                                                                                                                                                                                                                                                                                                                                                                             587
                                                                                                                                                                                                                                                                                                                                                                                                                                                 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165
     use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
```

```
SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS00010; ASX_HYDROXYL; 1

PROSITE; PS01180; CUB; 2.

PROSITE; PS01186; EGF_1; FALSE_NE

PROSITE; PS01186; EGF_2; FALSE_NE

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS01187; EGF_CA; 1.

PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_HIS; FA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PP00008; EGF; 1.
Pfam; PP000084; sushi; 2.
Pfam; PP00089; trypsin; 1.
Pfam; PP00431; CUB; 2.
Pfam; PP00431; CUB; 2.
PRINTS; PR00722; CHYMOTRYPSIN.
SWART; SW00032; CCP; 2.
SWART; SW00042; CUB; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001314; (InterPro; IPR000561; InterPro; IPR001281; InterPro; IPR001254; InterPro; IPR000436; (InterPro; IPR00436; (InterPro; IPR00436
                                                                                                                                        MOD_RES
ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities
or send a
                                DISULFID
DISULFID
DISULFID
CARBOHYD
                                                                                                                                                                                                                                                                                                               DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                          DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gamma-carboxyglutamic Signal; EGF-like doma:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X16160; CAA34286.1; PIR; S05008; S05008.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000152; InterPro; IPR000859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P00763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tities requires a license agreement (S send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTICOAGULATION FACTOR, PROTEIN C.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY SI
SIMILARITY: CONTAINS 2 SUSHI (SCR) DOMAINS
SIMILARITY: CONTAINS 2 CUB DOMAINS.
SIMILARITY: CONTAINS 1 EGF-LIKE DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBUNIT: HETERODIMER, CONSISTING OF HEAVY AND LIGHT CHAINS DISULFIDE BONDS. THE HEAVY CHAIN IS EXPECTED TO BE A REGULA SUBUNIT AND THE LIGHT CHAIN CONTAINS THE CATALYTIC SITE. DOMAIN: THE GLU-RICH REGION IN THE N-TERMINAL REGION MAY BE CARBOXYLATED AND FUNCTION AS A CALCIUM-BINDING SITE. SIMILARITY: TO BLOOD COAGULATION FACTORS SUCH AS IX, X AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ween the Swiss Institute of Bioinforms 
European Bioinformatics Institute. The 
by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00179; EGF_CA; 1.
SM00020; Tryp_SPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S01.193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Serine
        1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protease; Calcium-binding; Extracell
amic acid; Vitamin K; Hydroxylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRYPSIN_SER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      695
444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Asx_hydroxyl.; CUB_domain.; Chymotrypsin.; EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FALSE_NEG
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCN.
N-LINKED (GLCN.
                                                                                                                                                                                                                                                                                                                                                                                             CHAIN.
GLU-RICH
CUB 1.
                                                                                                                                      SERINE PROTEASE.

BGF-LIKE, CALCIUM-BINDING (POTENTIAL).

HYDROXYLATION (POTENTIAL).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                               CUB 2.
SUSHI
SUSHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN.
CALCIUM-DEPENDENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CALCIUM-DEPENDENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FALSE_NEG
  (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                          (ACIDIC).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Extracellular matrix;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Usage
  . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SERINE
SERINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SERINE
     نن
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρy
  (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROTEINASELIGHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROTEINASE PROTEINASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A REGULATORY
SITE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a collaboration - MBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HTIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ons on its
in no way
commercial
```

```
RESULT 6
C1S_HUMAN
  Db
                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ър
                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Best 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                 C1S_HUMAN STANDARD; PRT; 688 AA P09871; Q9UM14; Q9UCU7; Q9UCU8; Q9UCU9; Q9UCV3; Q9UCV4; Q9UCV5; Q1-MAR-1989 (Rel. 10, Created) 01-MAR-1989 (Rel. 10, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation updat Complement C1s component precursor (EC 3.4.
                                              Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
  Kusumoto
         SEQUENCE FROM N.A. MEDLINE=89017187;
                    SEQUENCE FROM
                                                                                                                                                                                          665
                                                                                                                                                                                                                                                606
                                                                                                                                                                                                                                                                  550
                                                                                                                                                                                                                                                                                                      494
                                                                                                                                                                                                                                                                                                                        494
                                                                                                                                                                                                                                                                                                                                          436
                                                                                                                                                                                                                                                                                                                                                            438
                                                                                                                                                                                                                                                                                                                                                                               378
                                                                                                                                                                                                                                                                                                                                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP-VFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSG
                                                                                                                                                                                       -KCGTYGIYTKVKNYKDWI
                                                                                                                                                                                                   GEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                     VGSTSVRMENLANVQ----KLTTDRVIIHPGWKPGDDLSTRTNFDNDIALVRLKDPVKMG
                                                                                                                                                                                                                                                                                                                                                                              --DPENTLFGSVIHYSCEEPYYYMEHAEHGGEYRCAANGSWVNDELGIELPKCVPVCGVP
                                                                                                                                                                                                                                                                                                                                                                                        GFPGPLTIETHSNTLDIVFQTDLTEQKKGWKLRYHGDPIPCPKEIT-ANSVWAPEKAKYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDEC
                                                                                                                                                                                                                            PKARADDYVFTSNMICAG--EKGVDSCQGDSGGAFALPVPNVRDPKFYVAGLVSWGK---
                                                                                                                                                                                                                                               PYPRGS---VTANMLCAGLESGGKDSCRGDSGG--ALVFLDSETERWFVGGIVSWGSMNC
                                                                                                                                                                                                                                                                 PTVSPICLPGTSSEYEPSEGDLGLISGWGRTERRNIVIQLRGAKLPVTSLEKCRQVKEEN
                                                                                                                                                                                                                                                                                  SNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKP
                                                                                                                                                                                                                                                                                                                      --ALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----THDAGFDNDIALIKLNNKVVIN
                                                                                                                                                                                                                                                                                                                                                           AR--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLYDNWVLTAAHAVYEQKHDAS--
                                                                                                                                                                                                                                                                                                                                                                                                                  FKDVVKISCVDGFEAVEGNVGSTFFYSTCQSNGQWSNSRLRCQPVDCGIPEPIQNGKVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                  LKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NPYPENSRCEYQILLEEGFQVVVTIQREDFDVEPADSQGNCQDSLLFAAKNRQFGPFCGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RPYPKLSSCTYSISLEEGFSVILDFV-ESFDVETHPETLCPYDFLKIQTDREEHGPFCGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDFT-DVP-CSHFCNNFIGGYFCSCPPEYFLHDDMRNCGVNCSGNVFTALIGEISSPNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GVEEGRLCGQRTSKNANSPIVEEFQIPYNKLQVIFRSDFSNEERFTGFAAYYAAIDVNEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EPTMHGEILSPNYPQAYPNEMEKTWDIEVPEGFGVRLYFTHLDMELSENCEYDSVQIISG
                                                                                                                                                                                                                                                                                                                                         TEPFRIQQRIFGGFPAKIQSFPWQV-FFEFPRAGGALIGEHWVLTAAHVV-EGNSDPSMY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
 Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
 Hirosawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽,
PubMed=2459702;
sawa S., Salier
                                               Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33.1%;
                                                                                                                                                                                          682
                                                                                                                                                                                                           679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1244.5;
Pred. No. 5.7
                                              Craniata; V
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E924F7E6340700D0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
J.P.,
                                                                                  update)
C 3.4.21
Hagen
                                                                                                                                 Q9UCV0;
                                                        Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; DB 1;
5.7e-86;
                                               Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            269;
щ
                                                                                   .42)
.s.,
                                                                                                                                 Q9UCV1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                  (C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
Kurachi
                                                        Euteleostomi;
                                                                                   esterase)
                                                                                                                                 Q9UCV2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                       545
                                                                                                                                                                                                                                                                                                                                         493
                                                                                                                                                                                                                                                                                                                                                                              435
                                                                                                                                                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                                                    379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                    605
                                                                                                                                                                                                                                                                                                                                                           493
                                                                                                                                                                                                                                                                                                                                                                                                                  377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
8
                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                           [6]
                                                                                                                                                                                                                                                                                                                                                                                                                           <u>.</u>
```

```
PARTIAL SEQUENCE, AND 3D-STRUCTURE MODELING MEDLINE-95288736; PubMed-7779774; Rossi V., Gaboriaud C., Lacroix M., Ulrich J "Gagnon J., Arlaud G.J.; "Structure of the catalytic region of human study by chemical cross-linking and three-dimodeling.";
                                                                                                                                                                                                                                                                           TISSUE=Plasma;
MEDLINE=91308095; PubMed=1854725;
Illy C., Thielens N.M., Gagnon J., Arlaud G.J.;
"Effect of lactoperoxidase-catalyzed iodination"
                                                                                                                                                                                                                                                                                                                                                                                                                Carter P.E., Dunbar B., Fothergill J.E.; "The serine proteinase chain of human com Cyanogen bromide cleavage and N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 16-61, 168-219; 287-334
MEDLINE-86164350; PubMed-3007145;
Spycher S.E., Nick H., Rickli E.E.;
"Human complement component Cls. Par
the heavy chain and identification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Complete of linkage of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               McKinnon C.M., Carter P.E., Smyth S.J. McKinnon C.M., Carter P.E., Smyth S.J. "Molecular cloning of cDNA for human complete amino acid sequence."; Eur. J. Biochem. 169:547-553(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Peripheral blood leukocytes; MEDLINE=99008558; PubMed=9794427; Endo Y., Takahashi M., Nakao M., Sa
                                                                                                                                  MEDLINE=91175725; PubMed=2007122;
Hess D., Schaller J., Rickli E.E.
"Identification of the disulfide
Biochemistry 30:2827-2833(1991).
                                                                                                                                                                                  MEDLINE=91175725;
                                                                                                                                                                                                                                                        dependent interactions
sites.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   activation."
                                                                                                                                                                                                                                   Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=84104122; PubMed=6362661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nonaka M., Fujita T.;
"Two lineages of mannose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. MEDLINE=88163522; PubMed=2831944;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=88082788; PubMed=3500856;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Human genes for complement tail-to-tail arrangement.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MASP) in vertebrates."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immuno1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 M., Duponchel C., Meo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , Duponchel C., Meo T., Julier C.;
te cDNA sequence of human complement
of the homologous genes Cls and C.
istry 26:8516-8524(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biol.
                                                                                                                                                                                                                                                                                                                                                                                   215:565-571(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161:4924-4930(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   438-500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 - 329
                                                                                                                                                                                                                                 30:7135-7141(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  208:709-714(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  156:49-57(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     503-534;
                                                                                                                                                                                                                                                                  of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                components Clr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Smyth S.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542-601;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85:7307-7311(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Couture-Tosi
                                                                                                                                                                                                                                                                    Cls. Location
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement Cls
                                                                                                                                                   bonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lectin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saiga H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND
                  three-dimensional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement component Cls.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . . an
                                                                                                                                                                                                                                                                                                                                                                                                                                   complement component
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     617-623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dunbar B., Fothergill J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence
e peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   384-445
                                                                                                                                                                                                                                                                                                                                                                                                                  sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intronless
                                                                                                                                                   human
                                                               J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Cls
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sekine
                                  complement
                                                                                                   OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ħ
                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND
                                                                 Fontecilla-Camps
                                                                                                   CATALYTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                   on
S
                                                                                                                                                   complement
                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                  of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bond cleaved
                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     626-656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   close
                                                                                                                                                                                                                                                                     iodination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   þ
                    homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matsushita
                                   protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     close
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  physical
                                                                                                                                                   Cls.";
                                                                                                                                                                                                                                                                                                                                                                                                                                      Cl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  during
                                   C1s:
                                                                  Ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ×
                                                                  .0
```

```
PRINTS; PRO0722; CHYMOTRYPSIN.
SMARR; SM00032; CCP; 2.
SMARR; SM000032; CCB; 2.
SMARR; SM001042; CUB; 2.
SMARR; SM001079; EGF_CA; 1.
SMARR; SM00100; Tryp_SPC; 1.
PROSITE; PS00010; ASX_HYDROXYL; 1.
PROSITE; PS001108; CUB; 2.
PROSITE; PS001180; CUB; 2.
PROSITE; PS01180; CUB; 2.
PROSITE; PS01186; EGF_1; FALSE_NEG.
PROSITE; PS01186; EGF_2; FALSE_NEG.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01187; EGF_CA; 1.
PROSITE; PS01184; TRYPSIN_DOM; 1.
PROSITE; PS00134; TRYPSIN_HIS; FALSE_PROSITE; PS00134; TRYPSIN_HIS; FALSE_PROSITE; PS00134; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                 InterPro: IPR000152: Asx_hyd
InterPro: IPR000859; CUB_dom
InterPro: IPR001314; Ctymotur
InterPro: IPR000561; EGF-11k
InterPro: IPR001881; EGF-Ca.
InterPro: IPR001254; Ser_pro:
InterPro: IPR001254; Ser_pro: IPR001254; Ser_pro: IPR001254; Sushi_S.
Pfam: PF00008; EGF; 1.
Pfam: PF00008; EGF; 1.
Pfam: PF00081; Cushi; 2.
Pfam: PF00081; Cushi; 2.
                                                                                                                                                                                                                                                                                                                                                                                                          PIR; A40496; CİHUS.
PIR; S00224, S00224.
MEROPS; S01.193; -.
SWISS-2DPAGE; P09871;
Genew; HGNC:1247; C1S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -I- FUNCTION: CIS B CHAIN IS A SERINE PROTEASE THAT COMBINES WITH C1Q AND C1S TO FORM C1, THE FIRST COMPONENT OF THE CLASSICAL PATHWAY OF THE COMPLEMENT SYSTEM. C1R ACTIVATES C1S SO THAT IT CAN, IN TURN, ACTIVATE C2 AND C4.

-I- CATALYTIC ACTIVITY: CLEAVES COMPONENT C4 TO C4A AND C4B, AND COMPONENT C2 TO C2A AND C2B.
-I- SUBUNIT: C1 IS A CALCIUM DEPENDENT TRIMOLECULAR COMPLEX OF C1O, R AND S IN THE MOLAR RATION OF 1:2:2. ACTIVATED C1S IS AN DISULFIDE-LINKED HETERODIMER OF AN HEAVY CHAIN AND A LIGHT CHAIN.
-I- DISBASE: Defects in C1S are the cause of selective C1S deficiency, that is associated with early onset multiple autoimmune diseases.
-I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
-I- SIMILARITY: CONTAINS 2 SUSHI (SCR) DOMAINS.
-I- SIMILARITY: CONTAINS 2 CUB DOMAINS.
-I- SIMILARITY: CONTAINS 1 BEF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dragon-Durey M.-A., Quartier P., Fremeaux-Bacchi V., Blouin J., de Barace C., Prieur A.-M., Weiss L., Fridman W.-H.; molecular basis of a selective Cls deficiency associated with
                                         Calcium
                                                                   Complement pathway;
                                                                                                                                                                                                                                                                                                                                                                                                   MIM; 120580;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  onset multiple autoimmune diseases.";
J. Immunol. 166:7612-7616(2001).
                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biochemistry
[11]
                                                     Hydroxylation; Sushi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X06596; CAA29817.1; -. J04080; AAA51852.1; -. M18767; AAA51853.1; -. AB009076; BAA86864.1; -.
                                          -binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34:7311-7321(1995)
                                                                                                                                                                                                                                                                                                                                                                                                           P09871; HUMAN
247; C1S.
    15
437
688
                                                                    Plasma;
                                                                                                                                                                                                                                                                                                                                           CUB_domain.
Chymotrypsin.
EGF-like.
                                                                                                                                                                                                                                                                                                     Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                   Asx_hydroxyl.
                                                                                                                                                                                                                                                                                                                                EGF_Ca
                                                     Repeat;
                                                                 Glycoprotein;
 COMPLEMENT
                                                     Signal;
                                                                                           FALSE_NEG
                                                     EGF-like
 C1S
                                                              Serine protease;
 HEAVY
LIGHT
                                                     domain;
CHAIN.
                                                                Hydrolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           early
                                                                                         밁
                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                      밁
                                                            δ
                                                                                                                δ
                                                                                                                                          В
                                                                                                                                                                                               В
                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                  рЬ
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
DOMAIN
             524
                                      467
                                                                                         408
                                                                                                                   417
                                                                                                                                             351
                                                                                                                                                                                               292
                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                      172
                                                                                                                                                                                                                                                                                                                                                         114
                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                           54
                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                               \vdash
```

```
Query Match
Best Local S
Matches 268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID DISULFID CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                .1 MRLLTLLGLLCGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLY
                                                                                                                    SALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDF-VESFDVETHPET
                                                                                                                                                                                                                                                                                                           YSNEKPFTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC
-THDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLA
                               EYWVLTAAHVVEGNREPTMYVGSTSVQTSRLAKSKMLTP-----
                                                                           SWVNEVLGPELPKCVPVCGVPREPFEEKQRIIGGSDADIKNFPWQV-FFDNPWAGGALIN
                                                                                          FWTSSKGEKSLPVCEPVCGLSAR--TTGGRIYGGQKAKPGDFPWQVLILGGTTAAGALLY
                                                                                                                               MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMK-VNDGKYVCEADG
                                                                                                                                                               MPCP-KEDTPNSVWEPAKAKYVFRDVVQITCLDGFEVVEGRVGATSFYSTCQSNGKWSNS
                                                                                                                                                                                    QPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRP
                                                                                                                                                                                                           GNCLDSLVFVAGDRQFGPYCGHGFPGPLNIETKSNALDIIFQTDLTGQKKGWKLRYHGDP
                                                                                                                                                                                                                               LCPYDFLKIQTDREEHGPFCGKTLPH--RIETKSNTVTITFVTDESGDHTGWKIHYTSTA
                                                                                                                                                                                                                                                    GVNCSGDVFTALIGEIASPNYPKPYPENSRCEYQIRLEKGFQVVVTLRREDFDVEAADSA
                                                                                                                                                                                                                                                                                               FSNEERFTGFAAYYVATDINECTDFV-DVP-CSHFCNNFTGGYFCSCPPEYFLHDDMKNC
                                                                                                                                                                                                                                                                                                                                         FTHLDIELSENCAYDSVQIISGDTEEGRLCGQRSSNNPHSPIVEEFQVPYNKLQVIFKSD
                                                                                                                                                                                                                                                                                                                                                      FTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSD
                                                                                                                                                                                                                                                                                                                                                                                     MWCIVLFSLLAWVYAEP-----TMYGEILSPNYPQAYPSEVEKSWDIEVPEGYGIHLY
                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 403
4 403
6 421
6 618
6 59
6 59
2 9 4
2 9 4
5 7 6 6 8 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                               102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MW;
                                                     DASALDIRMGTLKRLSPHYTQAWSEAVFIHEGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUSHI 1.
SUSHI 2.
SUSHI 2.
SERINE PROTEASE.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
HYDROXYLATION (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1238;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CUB 1.
EGF-LIKE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C -> K (IN REF. 6).
G -> GG (IN REF. 5).
T -> A (IN REF. 7).
TK -> GR (IN REF. 7).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-LINKED (GLCNAC...).
N-LINKED (GLCNAC...).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          СОВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERCHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CALCIUM-BINDING (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                         ; DB 1;
1.7e-85;
                                                                                                                                                                                                                                                                                                                                                                                                                               283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 688;
                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                 -EHVFIHPGWKLLEV
                                                                                                                                                                                                                                                                                                                                                                                                                               48;
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
           582
                               519
                                                     523
                                                                           466
                                                                                                 474
                                                                                                                    407
                                                                                                                                          416
                                                                                                                                                                35C
                                                                                                                                                                                     357
                                                                                                                                                                                                           291
                                                                                                                                                                                                                               297
                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                               171
                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                         113
                                                                                                                                                                                                                                                                                                                                                                                      <u>υ</u>
                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                               18;
```

g QY B QΥ 망

```
RESULT 7
ST14_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PARACI
                    J. Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ST14_HUMAN STANDARD; PRT; 855 AA.

Q9Y5Y6; Q9H3S0; Q9HCAA; Q9BS01; Q9HB36;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Suppressor of tumorigenicity 14 (EC 3.4.21.-) (Matriptase) (Membrane-type serine protease 1) (MT-SP1) (Prostamin) (Serine protease TADG-15)
(Tumor associated differentially-expressed gene-15 protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDITINE-99432178; PubMed=10500122; Takeuchi T., Shuman M.A., Craik C.S.; Takeuchi T., Shuman M.A., Craik C.S.; "Reverse biochemistry: Use of macromolecular protease inhibitors to dissect complex biological processes and identify a membrane-type serine protease in epithelial cancer and normal tissue."; proc. Natl. Acad. Sci. U.S.A. 96:11054-11061(1999).
                                                                                                        MEDLINE=99303582; PubMed=10373425;
                                                                                                                             TISSUE-Milk;
                                                                                                                                                                                                                                                                                                           SEQUENCE OF 327 TISSUE=Muscle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lin C.Y., Anders J., Johnson M., Sang Q.A.
"Molecular cloning of cDNA for matriptase,
protease with trypsin-like activity.";
J. Biol. Chem. 274:18231-18236(1999).
              Lin C.Y., Anders J., Johnson M., Dickson R.B.;
"Purification and characterization of a complex containing matriptase and a Kunitz-type serine protease inhibitor from human milk.";
J. Biol. Chem. 274:18237-18242(1999).
-!- FUNCTION: DEGRADES EXTRACELLULAR MATRIX. PROPOSED TO PLAY A ROLE
                                                                                                                                              CHARACTERIZATION
                                                                                                                                                                                 Submitted
                                                                                                                                                                                                                                                                                                                                                               Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDLINE=99303581; PubMed=10373424;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                     SEQUENCE OF
                                                                                                                                                                                                                                                                     Submitted (APR-2001) to
                                                                                                                                                                                                                                                                                          Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human)
                                                                                                                                                                               "Genomic analysis of 
Submitted (JUN-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Prostate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ľamaguchi N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Molecular cloning c
n human prostate ";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRLKAARLPVAPLRKCKEVKVEKPTADAEAYVFTPNMICAGGEK-GMDSCKGDSGGAFAV 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LD-SETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RNLMYVDIPIVDHQKC-TAAYEKPPYPRGS--VTANMLCAGLESGGKDSCRGDSGGALVF 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEGRTNFDNDIALVRLKDPVKMGPTVSPICLPGTSSDYNLMDGDLGLISGWGRTEKRDRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QDPNDKTKFYAAGLVSWGP----QCGTYGLYTRVKNYVDWI
                                                                                                                                                                                                                   E OF 340-664 FROM N.A. Fan W., Zheng S.;
                                                                                                                                                                                                                                                                                                                                                                                                 H., Underwood
                                                                                                                                                                                                                                                                                                                                                             (APR-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (JUL-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                     N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mitsui
 CANCER
                                                                                                                                                                                                                 Zheng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                             FROM
                                                                                                                                                                               a novel human serine prot
to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         þ
                                                                                                                                                                                                                                                                                                                                                                                                 L.J.,
                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                       the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         novel transmembrane
                                                                                                                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                               Wang
 AND
                                                                                                                                                                                                                                                                                                                                                                                               Υ.,
METASTASIS.
                                                                                                                                                                                                                                                                                                                                                                                               Shigemasa K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
A.,
                                                                                                                                                                                              protease SNC19.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dickson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           matrix-degrading
                                                                                                                                                                                                                                                                                                                                                                                                                                                     databases
                                                                                                                                                                               databases
                                                                                                                                                                                                                                                                     databases
                                                                                                                                                                                                                                                                                                                                                             databases
EXHIBITS TRYPSIN-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protease expressed
                                                                                                                                                                                                                                                                                                                                                                                                 Parmley T.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protease TADG-15)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
В.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      579
```

Qy

29

RLASPGFP-GEYANDQERRWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK---

```
Query Match
Best Local S
 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                            SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS01180; CUB; 2.

PROSITE; PS01209; LDLRA_1; 2.

PROSITE; PS50068; LDLRA_2; 4.

PROSITE; PS50240; TRYPSIN_DOW; 1

PROSITE; PS00135; TRYPSIN_HIS; 1

PROSITE; PS00135; TRYPSIN_SER; 1
                                                                        CARBOHYD
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                               DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                           DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                         DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                             SEQUENCE
                                                                                                                                      CARBOHYD
                                                                                                                                                    CARBOHYD
                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF283256; HSSP; P00763; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                  ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                 Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                 Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00722; PRINTS; PR00261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00057; ldl_recept_a; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MIM; 606797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTIVITY AS DEFINED BY CLEAVAGE OF SOR LYS AS THE P1 SITE.
SUBCELLULAR LOCATION: Type II membra
SIMILARITY: BELONGS TO PEPTIDASE FAN
SIMILARITY: CONTAINS 4 LDL-RECEPTOR
SIMILARITY: CONTAINS 2 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB030036;
AF057145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PF00089; trypsin; 1. PF00431; CUB; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF118224;
al Similarity
186; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BC005826;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF133086;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SM00042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HGNC:11344; ST14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       non-profit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR002172;
IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR001314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR000859;
                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD42765.2;
AAF00109.1;
BAB20376.1;
AAG15395.1;
AAH05826.1;
                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                              Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                 Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CUB; 2.
LDLa; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG13949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LDLRECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHYMOTRYPSIN
                                                                                          94769
              13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LDL_recept_A.
Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CUB_domain.
Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     institutions as long
                                                             X
E
 90;
                                                                                                     N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
FEA -> GTR (IN REF. !
Score 488; DB
Pred. No. 5.7e
90; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .....
                                                                                                                                                                                                                                           LDL-RECEPTOR CLASS & LDL-RECEP
                                                                                                                                                                                                SERINE
CHARGE
CHARGE
                                                                        FEA -> GTR (IN I
R -> S (IN REF.
A -> V (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                Hydrolase;
                                                                                                                                                                                                                                                                                                                      EXTRACELLULAR CUB 1.
                                                                                                                                                                                                                                                                                                                                                                  CYTOPLASMIC (I
                                                                                                                                                                                  CHARGE
                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                             26143132C01F99C9
                                                                                                                                                                               RELAY SYSTEM
RELAY SYSTEM
RELAY SYSTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g FAMILY S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MILY S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYNTHETIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                There are no
                                                                                                                                                                                                                                                                                                                                                                                                              Serine protease;
              DB 1;
.7e-29;
                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                     (TYPE-II MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       as its content
                                                                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Α
                                                                                                                                                                                                                                              > > > >
                            Length
                                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAINS
                                                                                                                                                                               (BY SIMILARITY).
(BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBSTRATES WITH
                                                                                                                                                                                                                                              4321
Indels
                                                                                                                                    ) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       no
 31;
```

```
RESULT
                                                                                                               01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Limulus clotting factor C precursor (EC 3.4.21.84) (FC).
Tachypleus tridentatus (Japanese horseshoe crab).
Eukaryota; Metazoa; Arthropoda; Chelicerata; Merostomata; Xiphosura;
  with a mosaic structure of complement-like, factor-like, and lectin-like domains.";
J. Biol. Chem. 266:6554-6561(1991).
                               Muta T., Miyata T., Misumi Y., Tokunaga F. Ikehara Y., Iwanaga S.;
"Limulus factor C. An endotoxin-sensitive
                                                                                                  Limulidae; Tachypleus.
NCBI_TaxID=6853;
                                                                   SEQUENCE FROM N.A., MEDLINE=91177916; P
                                                                                                                                                                                                                                                                                                                                                                                          684
                                                                                                                                                                                                                                                                                                                                                                                                                                     624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 412
                                                                                                                                                                                                                                                                                                    783
                                                                                                                                                                                                                                                                                                                                                731
                                                                                                                                                                                                                                                                                                                                                                     552
                                                                                                                                                                                                                                                                                                                                                                                                                492
                                                                                                                                                                                                                                                                                                                                                                                                                                                          454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                   TACTR
                                                                                                                                                                                                                                                                             KVINYIPWIE
                                                                                                                                                                                                                                                                                                  QITPRMMCVGFLSGGVDSCQGDSGGPLSSVEAD-GRIFQAGVVSWGD-GCAQRNKPGVYT
                                                                                                                                                                                                                                                                                                                SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYT
                                                                                                                                                                                                                                                                                                                                                                  CLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYEKPPYPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                   GEWPWQVSLHALGQGHICGASLISPNWLVSAAHCYIDDRGFRYSDPTQWTAFLGLHDQSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                GCSCPAQTFRCSNGKCLSKSQQCNGKDDCGDGSDEASCPKVNVVTCTKHT-----YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IRKELRCDGWADCTDHSDELNCSCDAGHQFTCKNKFCKPLFWVCDSVNDCGDNSDEQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ILK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ERSQFVVTSNSNKITVRFHSDQSYTDTGFLAEYLSYDSSDPCP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLP--DASHVFPAGKAIWVTGWGHTQYGGTGALILQKGEIRVINQTTCENLLPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                             ASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LNGLCLSKGNPECDGKEDC-SDG----SDEKD---CD--CGLRSFTRQARVVGGTDADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EETFYTMKVN----DGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRPYPKLSSCTYSISLEEGFSVILDFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCG
                                                                                                                                                                                                                                                          RLPLFRDWIK 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PGHYPPNIDCTWNIEVPNNQHVKVRFKFFYLLEPGVPAGTCPKDYVEINGEK----YCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --VLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDE
                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                             680
                                                                  PubMed=2007602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPPSYNLTFHSSQNVLLITLITNTERRHP--GFEATFFQLPRMSS
                                                                              AND PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -DSFSIFCETGYELLQGHLPLKSFTAVCQK-----DGSWDRPMP
                                                     Tokunaga F.,
                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -DCGP-PDDLPSGRVEYITGPGVTTYKAVIQYSC
                                                                                                                                                                                                                                                                                                                                                                                         - PEFNDETFDYDIALLELEKPAEYSSMVRPI
                                                                                                                                                                                                   1019
                                                                                                                                                                                                  Ą
                                 serine
                     erine protease
epidermal grow
                                                       Nakamura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGRLRKAQGTFNSPYY
                                                     · T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GQFTCRTGRC
                                                        Toh
                                                                                                                                                                                                                                                                                                                                                                                                                                                        -HD---
                                                     Υ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     318
                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                             551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     356
                                                                                                                                                                                                                                                                                                                                                                   610
                                                                                                                                                                                                                                                                                                                                                                                                                                   683
                                                                                                                                                                                                                                                                                                                                                                                                                                                        491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                              782
 Hydrolase;
Hemolymph c
Sushi; Repe
                                                                                                                                                                                                          PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
          DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                CHAIN
DOMAIN
                                                                                                                               CHAIN
                                                                          DOMAIN
DOMAIN
                                                                                                                                                      CHAIN
                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        + +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <del>:</del>
ACT_SITE
                                                                 DOMAIN
                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEROPS; S01.219;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           substrates
```

밁 õ 밁 δõ В õ Дb δÃ В õ

B Š õ

밁 δÃ 밁 δÃ 밁 Š 밁

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no will not be a superior of the statement is not removed. Usage by and for commercial modified and this statement is not removed. Usage by and for commercial controls as a light of the statement is not removed.
EMBL; D90271; BAA14315.1; -. EMBL; D90272; BAA14316.1; -.
                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                      BY A DISULFIDE BOND.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

SIMILARITY: CONTAINS 5 SUSHI (SCR) DOMAINS.

SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY

SIMILARITY: CONTAINS 1 EGF-LIKE DOMAIN.

SIMILARITY: CONTAINS 1 LCCL DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: THIS ENZYME IS CLOSELY ASSOCIATED WITH AN ENDOTOXIN-
SENSITIVE HEMOLYMPH COAGULATION SYSTEM WHICH MAY PLAY IMPORTANT
ROLES IN BOTH HEMOSTASIS AND HOST DEFENSE MECHANISMS. ITS ACTIVE
FORM CATALYZES THE ACTIVATION OF FACTOR B.

CATALYTIC ACTIVITY: Selective cleavage of 103-Arg-|-Ser-104 and
124-Ile-|-Ile-125 bonds in Limulus clotting factor B to form
activated factor B. Cleavage of Pro-Arg-|-Xaa bonds in synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LIPOPOLYSACCHARIDES AND SUBUNIT: HETERODIMER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENZYME REGULATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHYMOTRYPSIN.
A LIGHT CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY GRAM-NEGATIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HEAVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BACTERIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bonds in synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                          a collaboration -
MBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTIVE
                                                                                                                                                                                         commercia
```

```
PRINTS; PRO0722; CHYMOTRYPSIN.
SMART; SM00032; CCP; 5.
SMART; SM00034; CLECT; 1.
SMART; SM00030; TLYP_SPC; 1.
SMART; SM00181; EGF; 1.
SMART; SM00181; EGF; 1.
SMART; SM00020; TTYP_SPC; 1.
SMART; SM00020; TTYP_LECTIN_1; FALSE_NEG.
PROSITE; PS00041; C_TYPE_LECTIN_2; 1.
PROSITE; PS00041; C_TYPE_LECTIN_2; 1.
PROSITE; PS01086; EGF_1; 1.
PROSITE; PS01186; EGF_2; FALSE_NEG.
PROSITE; PS01820; LCCL; 1.
PROSITE; PS01820; LCCL; 1.
PROSITE; PS01820; LCCL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000551; EGF-like.
InterPro; IPR001304; LcCL_dom.
InterPro; IPR001304; Lcctin_C.
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR000436; Sushi_SCR_CCP.
Pfam; PF00059; lectin_C; 1.
Pfam; PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; D90272; BAA143
PIR; A38738; A38738.
PIR; B38738; B38738.
                                                                                                                                                                                                                                                                                                     PS00135;
                                                                                                                                                                                                                                                                                                                    PS00134;
                                                                                                                                                                                                                                                                   clotting;
                                                                                                                                                                                                                                                                                      Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1DP0
                                                                                                                                                                                                                                                                                                  TRYPSIN_HIS; 1. TRYPSIN_SER; 1.
    1019
1019
1019
1019
1019
1019
1137
1137
1254
254
421
421
421
421
421
421
748
634
                                                                                                                                                                                                                                                                                     protease;
                                                                                                                                                                                                                                                                      Glycoprotein;
EGF-LIKE.
SUSHI 1.
SUSHI 2.
SUSHI 3.
LCCL.
C-TYPE LECTIN.
SUSHI 4.
SUSHI 4.
SUSHI 5.
SERINE PROTEASE.
CHARGE RELAY SYSTEM (
                                                                                                                                                                                                                                                                   Signal; Alternative splicing; otein; Cell adhesion; EGF-like
                                                                                                                                                        LIMULUS CLOTTING
LIMULUS CLOTTING
LIMULUS CLOTTING
LIMULUS CLOTTING
                                                                                                                                                          FACTOR
FACTOR
FACTOR
FACTOR
FACTOR
    (BY SIMILARITY).
                                                                                                                                                           00000
                                                                                                                                                          HEAVY CH
LIGHT CH
A CHAIN.
B CHAIN.
                                                                                                                                                                                                                                                                     Lectin;
domain;
                                                                                                                                                                                        CHAIN.
```

CDNA

from

the

in synthetic

ACTIVE

a collaboration

outstation

```
AC DT DT DT OS
                                                                                                                    RESULT
LFC_CAI
                                                                                                                                                                                       맑
                                                                                                                                                                                                                  δã
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Ma
Best Loc
Matches
                                                                                  _CARRO
LFC_CARI
Q26422;
                  30-MAY-2000 (Rel.
30-MAY-2000 (Rel.
15-JUN-2002 (Rel.
Limulus clotting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
VARSPLIC
VARSPLIC
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACT_SITE
BINDING
DOMAIN
DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
 Limulus clotting
Carcinoscorpius
                                                                                                                                                                                       964
                                                                                                                                                                                                                                                     905
                                                                                                                                                                                                                                                                                                                      846
                                                                                                                                                                                                                                                                                                                                                                                                                    463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    500
                                                                                                                                                                                                                                                                                                                                                                                                                                                     732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       388
                                                                                                                                                                                                                                                                                                                                                                                    786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Sinhes 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _SITE
                                                                                                   _CARRO
                                                                                                                                                                                                      GDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                    GDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI 1019
                                                                                                                                                                                                                                                                                                                                    WSEAVFIHEGYTHDAGFDN-DIALIKLNUKVVINSNITPICLPRK-EAESFMRTDDIGTA
                                                                                                                                                                                                                                                                                                                                                                                                      ---LGGTTAAGALLYDNWYLTAAHAV----YEQKHDASALDIRMGTLKR---LSPHYTQA
: |:||:||:|||:|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSFTAVCQKDGSWDRPMPAC-SIVDC-GPPDDLPS-GRVEYITGPGVTT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HRIET-----
                                                                                                                                                                                                                                                     TGWGLNENNTYSEMIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDACS
                                                                                                                                                                                                                                                                      SGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR
                                                                                                                                                                                                                                                                                                                                                                                  DHNMWFLQCGGSLLNEKWIVTAAHCVTYSATAEIIDPSQFKIYLGKYYRDDSRDDDYVQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                     GRR-CDSNGNWSGRPAS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPRLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ
                                                                                                                                                                                                                                                                                                                  -REALETHVNPNYDPGNLNFDTALTQLKTPVTLTTRVQPTCLPTDTTTREHLKEGTLAVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKYVCEADGEWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDEPWQVLI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QPSSFACMMDLSDRNKAKCDDPGPLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 {\tt HRLDAEKPFVWELMDRSNVVLNDNLTFWASGEPGNETNCVYLDIRDQLQPVWKT--KSCF}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                (Rel.)
(Rel.)
(Rel.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 865
966
960
643
1106
1112
1127
127
4364
464
538
5238
5238
5234
534
624
499
1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                     STANDARD;
 .. 39, Created)
.. 39, Last sequence update)
1. 41, Last annotation update
q factor C precursor (EC 3.4.
   rotundicauda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ã,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    :|| | :|| : | | : |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                865

960

960

689

118

125

136

447

564

556

810

951

996

824

740

767

912

498

1019

112346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12.5%;
28.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL
   precursor (EC 3.4.27)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   -CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHARGE RELAY SY
SUBSTRATE (BY S
PRO-RICH.
BY SIMILARITY.
BY SIMILA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 471.5;
Pred. No. 1.2e
1; Mismatches
   (Southeast Asian horseshoe crab).
                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y SIMILARITY.
Y SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY.
SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SING (IN SHORT ISOFORM)
5BC2864C6715289B CRC64
                                                                                                   1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RELAY SYSTEM (BY SIMILARITY). RELAY SYSTEM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GLCNAC.)
(GLCNAC.)
(GLCNAC.)
(GLCNAC.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GLCNAC. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.2e-27;
ches 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----YKAVIQ--YSCEETFYTMKVND 407
                  3.4.21.84) (FC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDNVTAT (IN
                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISOFORM).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                    845
                                                                                                                                                                                                                                                                                                                                                                                                                  512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   614
                                                                                                                                                                                                                                                                                                                  904
                                                                                                                                                                                                                                                                                                                                                                                                                                                   785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27;
   PRINTS; PRO0722; CHYMOTRYPSIN.

SMART; SM00032; CCP; 5.

SMART; SM00034; CLECT; 1.

SMART; SM00031; EGF; 1.

SMART; SM00181; EGF; 1.

SMART; SM00120; Tryp_SPc; 1.

PROSITE; PS00041; C_TYPE_LECTIN_1; FA
PROSITE; PS50041; C_TYPE_LECTIN_2; 1.

PROSITE; PS01186; EGF_1; 1.

PROSITE; PS01186; EGF_2; FALSE_NEG.
PROSITE; PS01802; LCCL; 1.

PROSITE; PS50244; TRYPSIN_DOM; 1.

PROSITE; PS50214; TRYPSIN_DOM; 1.

PROSITE; PS50134; TRYPSIN_DOM; 1.
SIGNAL
CHAIN
CHAIN
CHAIN
CHAIN
CHAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=6848;
[1]
SEQUENCE FROM N. !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities
or send a
                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00059; lectin_c; 1.
pfam; PF00084; sushi; 5.
pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -i-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000561;
InterPro; IPR004043;
InterPro; IPR001304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; $77063; AAB34361.1; HSSP; P00763; 1DPO. MEROPS; $01.219; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ding J.L., Navas M.A. III, Ho B.; "Molecular cloning and sequence analysis of factor C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Arthropoda; Limulidae; Carcinoscorpius.
                                                                                                                                                                 Hydrolase;
                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR000436; Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Singapore horseshoe crab, Carcinoscorpius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=95268506;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBSTRATES.

ENZYME REGULATION: ACTIVATED BY GRAM-NEGATIVE BACTERIAL LIPOPOLYSACCHARIDES AND CHYMOTRYPSIN (BY SIMILARITY).

SUBUNIT: HETERODIMER OF A LIGHT CHAIN AND A HEAVY CHAIN BY A DISULFIDE BOND (BY SIMILARITY).

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

SIMILARITY: CONTAINS 5 SUSHI (SCR) DOMAINS.

SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN.

SIMILARITY: CONTAINS 1 CF-TLIKE DOMAIN.

SIMILARITY: CONTAINS 1 LCCL DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FORM CATALYZES THE ACTIVATION OF FACTOR B.

CATALYTIC ACTIVITY: Selective cleavage of 103-Arg-|-Ser-104 and 124-Tle-|-Tle-125 bonds in Limilus clotting factor B to form activated factor B. Cleavage of Pro-Arg-|-Xaa bonds in synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAY. Biol. Biotechnol. 4:90-103(1995).
FUNCTION: THIS ENZYME IS CLOSELY ASSOCIATED WITH AN ENDOTOXIN-
SENSITIVE HEMOLYMPH COAGULATION SYSTEM WHICH MAY PLAY IMPORTANT
ROLES IN BOTH HEMOSTASIS AND HOST DEFENSE MECHANISMS. ITS ACTIVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
                                                                                                                                                                                  PS00135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR001314;
                                                                                                                                                                  Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N.A.
 25
1019
690
1019
762
1019
137
195
                                                                                                                                                                              TRYPSIN_HIS; 1. TRYPSIN_SER; 1.
                                                                                                                                                               protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=7538401;
                                                                                                                                                 adhesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EGF-like.
LCCL_dom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lectin_C
                                            signal; Lectin; Hen
spiritude domain;
BY SIMILARITY:
LIMULUS CLOTTING E
LIMULUS C
LIMULUS C
EGF-LIKE.
SUSHI 1.
SUSHI 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chelicerata; Merostomata; Xiphosura;
                                                                                                                                                                                                                                                                                                 FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rotundicauda
                                                                                                                                                               Hemolymph
                                                FACTOR
FACTOR
FACTOR
FACTOR
                                                                                                                                                 Sushi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HEAVY CHAIN LINKED
```

00000

HEAVY CH LIGHT CH A CHAIN. B CHAIN.

CHAIN.

clotting;

```
RESULT 10
ST14_MOUSE
ID ST14_MOUSE
AC P56677;
                                                                                                                                                Š
                                                                                                                                                                                         В
                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
DISULFID
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACT_SITE
BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                      962
                                                                                                                                                                                                                                                                                                                                                                                                                                                          408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      298
                                                                                                                                                                                                                                                                                                                                             786
                                                                                                                                                                                                                                                                                                                                                                                   463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        265 HRIET------KSNTV---TITF-VTDESGDHTG------WKIHYTSTA 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Si
hes 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match
                                                                                                               CSGDSGGPLVFADDSRTERRWVLEGIVSWGSPSGCGKANQYGGFTKVNVFLSWIRQFI
                                                                                                                                    CRGDSGGALVFL-DSETE-RWFVGGIVSWGS-MNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                       VVTGWGLNENNTYSETIQQAVLPVVAASTCEEGYKEADLPL-TVTENMFCAGYKKGRYDA
                                                                                                                                                                                                                                                               ----LGGTTAAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTLKRLSPHYTQAWS-----
: |:||:||:||:||:||
DHNMWFLQCGGSLLNEKWIVTAAHCV---TYSATAEIIDPNQFKWYLGKYYRDDSRDDDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QPSSFACMMDLSDRNKAKCDDPGSLENGHAT-LHGQSI--DGFYAGSSIRYSCEVLHYLS
                                                                                                                                                                                                                            TASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDS
                                                                                                                                                                                                                                                                                                                                                                                                                   GRR-CDSNGNWSGRPAS-----CIPVCGRSDSPRSPFIWNGNSTEIGQWPWQAGISRWLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVLI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPRLPLARAAKPPPKPRSSQPSTVDLASKVKLPEGHYRVGSRAIYTCESRYYELLGSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTETVTCTTNGTWSAPKPRCIKVITCQNPP--VPSYGSVE-IKPPSRTNSISRVGSPFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HRLDAEKPFIWELMDRSNVVLNDNLTFWASGEPGNETNCVYMDIQDQLQSVWKT--KSCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3250
4 43250
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6659
6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            748
1019
869
865
966
966
689
1189
1125
125
554
5564
5564
552
532
740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.5%;
28.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -CPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C-TYPE LECTIN.
SUSHI 4.
SUSHI 5.
SUSHI 6.
SUSHI 6.
SUSHI 6.
SUSHI E PROTEASE.
CHARGE RELAY SYSTEM (B
CHARGE RELAY SYSTEM (B
CHARGE RELAY SYSTEM (B
CHARGE RELAY SYSTEM (B
SUBSTRATE (BY SIMILARITY.
BY SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 470.5;
Pred. No. 1.
                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                       855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----YKAVIQ--YSCEETFYTMKVND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           b; DB 1;
L.5e-27;
hes 187;
                       ΑA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78)
78)
78)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                  1019
                                                                                                                                                                                                                                                                                                                                                                                                                     785
                                                                                                                                                                                                                                                                                                                                                                                                                                                        462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26;
     EMBL; AF042822; .
EMBL; BC005496; .
HSSP; P20231; 1A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-1999
16-OCT-2001
15-JUN-2002
DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schwartz R.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ST14 OR PRSS14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (MAR-2001) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Strausberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                  DOMAIN
                                                                                                                                Pransmembrane;
                                                                                                                                                    Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        S01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99 (Rel. 38, (
01 (Rel. 40, I
02 (Rel. 41, I
r of tumoriger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Mouse)
                                                                                         Repeat.
1 55
56 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1AAO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tumor;
```

```
SMART; SM00042; CUB; 2.
SMART; SM00192; LDLa; 3.
PROSITE; PS001109; CUB; 2.
PROSITE; PS01109; LDLRA_1; 2.
PROSITE; PS502068; LDLRA_2; 4.
PROSITE; PS50240; TRYPSIN_DOM; 1
PROSITE; PS00134; TRYPSIN_HIS; 1
PROSITE; PS00135; TRYPSIN_EER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          MGD; MGI:1338881; St14.
InterPro; IPR000859; CUB_domain.
InterPro; IPR002172; LDL_recept_A.
InterPro; IPR001254; Ser_protease_Try.
Pfam; PF00057; 1dL_recept_a; 4.
Pfam; PF00089; trypsin; 1.
Pfam; PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@fisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN-C.B.17SCID; TISSUE-Thymus;
MEDLINE-99216440; PubMed-10199918;
Kim M.G., Chen C., Lyu M.S., Cho E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REVISIONS TO 23; 321; 325; 343; 409-410 AND C-TERMIN STRAIN-C.B.17SCID; TISSUE-Thymus; Kim M.G., Chen C., Cho E.G., Park D., Schwartz R.H.; Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Cloning and chromosomal mapping of a gene isolated from th stromal cells encoding a new mouse type II membrane serine epithin, containing four LDL receptor modules and two CUB of Immunogenetics 49:420-428(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
SUBCELL/LAR LOCATION: Type II membrane protein (Probable).
TISSUE SPECIFICITY: HIGHLY EXPRESSED IN INTESTINE, KIDNEY,
AND THYMUS. NOT EXPRESSED IN SKELETAL MUSCLE, LIVER, HEART.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TESTIS, AND BRAIN.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
SIMILARITY: CONTAINS 4 LDL-RECEPTOR CLASS A
SIMILARITY: CONTAINS 2 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rel. 38, Created)
Rel. 40, Last sequence update)
Rel. 41, Last annotation update)
tumorigenicity 14 (EC 3.4.21..)
                                                                                                                                                                                                                      Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD02230.3;
AAH05496.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
Rođentia;
                         (POTENTIAL).
EXTRACELLULAR
CUB 1.
CUB 2.
                                                                                                                                                                                                                   Hydrolase; Serine protease;
                                                                                                                                CYTOPLASMIC (I
LDL-RECEPTOR CLASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Park D.,
                                                                                                                                (POTENTIAL).
DR (TYPE-II MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C-TERMINUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ⋗
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Epithin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kozak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thymic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e protease,
domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LUNG
```

```
Qy
  В
                                              δõ
                                                                                              뫄
                                                                                                                                          Qy
                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQ STATE TO THE FOREST 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
ACT_SITE
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                               724
                                                                                                                                                                                                                                                                                                                                                    491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 LLCGSVATPLGPKWPE------PVFGRLASPGFPGE-YANDQERRWTLTAP
NKPGVYTRLPVVRDWIK
                                                GQYGVYTKVINYIPWIE
                                                                                                                                            KPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEA
                                                                                                                                                                                          STVVRPICLP--DATHVFPAGKAIWVTGWGHTKEGGTGALILQKGEIRVINQTTCEDLMP
                                                                                                                                                                                                                         NSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFL-ARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                                                                                                                                                                                                            ---DASALDIRMGTL---KRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVI
                                                                                                                                                                                                                                                                                                                                                                                               GLRSFTKQARVVGGTNADEGEWPWQVSLHALGQGHLCGASLISPDWLVSAAHCFQDDKNF
                                                                                                                                                                                                                                                                                           KYSDYTMWTAFLGLLDQSKRSASGVQELKLKRIITHPSF-NDFTFDYDIALLELEKSVEY
                                                                                                                                                                                                                                                                                                                                                                                                                                           GLSARTTGGRIYGGQKAKPGDFPWQVLI--LG-GTTAAGALLYDNWVLTAAHAVYEQKH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SDEASCDSVNVVSC--TKYTYRCQNG--LCLSKGNPECDGKTDCSDGSDEKN---CD--C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PGVTTYKAVIQYSCEETFYTMKVNDGKYVC-----EADGFWTSSKG--EKSLPVCEPVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FTCKNQFCKPLFWVCDSVNDCGDGSDEEGCSCPAGSFKCSNGKCLPQSQKCNGKDNCGDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LLQGHLPLKSFTAVCQK-----DGSWDR--PMPA----CSIVDCGPPDDLPSGRVEYITG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TDTGFLAEYLSYDSNDPCPGMFMCKTGRCIRKELRCDGWADCPDY--SDERYCRCNATHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DHTGWKIHYTS--TAQPCPYPMAPPNGHVSPVQAK-----YILKDSFSIFCETGYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DFVESFDVETH-PETLCPYDFLKIQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YSLGSSLDITFRSDYSNEKPFTGFEA-FYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYC 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADSVLSLTFRSFDVAPCDEHGSDLVTVYDSLSPMEPHAVVRLCGTFS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VLTSVVAFPIDPRMLQRTQDNSCSFALHAHGAAVTRFTTPGFPNSPYPAHARCQWVLRGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RFKLFYLVDPNVPVGSCTKDYVEINGEK-----YCGERSQFVVSSNSSKITVHFHSDHSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSSQNVFLVTLITNTDRRHP--GFEATFFQLPKMSSC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGYRLRLYFTHFDLELSHLCEYDFVKLSSGAK-----VLATLCGQESTDTERAPGKD-TF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          855
                                                                                                 ·QITPRMMCVGFLSGGVDSCQGDSGGPLSSAEKD-GRMFQAGVVSWGE-GCAQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 489
523
565
615
615
656
711
711
805
107
107
302
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12.5%;
                                                680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
N-LINKED (GLCNAC 

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDL-RECEPTOR CLASS I
LDL-RECEPTOR CLASS I
LDL-RECEPTOR CLASS I
SERINE PROTEASE.
CHARGE RELAY SYSTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LSDTQGTFSSPYYPGHYPPNINCTWNIKVPNNRNVKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 469.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4F10E84DA2146DD5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               469.5; DB 1;
No. 1.4e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GLCNAC . . . )
(GLCNAC . . . )
(GLCNAC . . . )
(GLCNAC . . . )
(GLCNAC . . . )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BY
(BY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------GGF--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                               664
                                                                                                                                                                                                                                                                                                                                                                                                                                             490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        52
                                                                                                                                                                                                                                             603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33
```

RESULT 11

```
Hattori M., Fujiyama A., Taylor T.D., Watanabe H., Yada T.,
A Park H.-S., Toyoda A., Ishii K., Totoki Y., Chol D.-K., Soeda E.,
A Park H.-S., Toyoda A., Ishii K., Totoki Y., Chol D.-K., Soeda E.,
A Ohki M., Takagi T., Sakaki Y., Taudien S., Blechschmidt K., Polley A
A Menzel U., Delabar J., Kumpf K., Lehmann R., Patterson D.,
A Reichwald K., Rump A., Schilhabel M., Schudy A., Zimmermann W.,
A Rosenthal A., Kudoh J., Shibuya K., Kawasaki K., Asakawa S.,
A Shintani A., Sasaki T., Nagamine K., Mitsuyama S., Antonarakis S.E.,
A Minoshima S., Shimizu N., Nordsiek G., Hornischer K., Brandt P.,
A Minoshima S., Shimizu N., Nordsiek G., Hornischer K., Brandt P.,
A Minoshima S., Shimizu N., Nordsiek G., Hornischer K., Brandt P.,
A Minoshima S., Shimizu N., Nordsiek G., Hornischer K., Bloecker H.
A Ramser J., Beck A., Klages S., Hennig S., Riesselmann L., Dagand E.,
A Ramser J., Beck A., Klages S., Hennig S., Riesselmann L., Dagand E.,
A Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Gardiner K., Nizetic D., Francis F.,
Wehrmeyer S., Borzym K., Market M., Wehrmeyer S., Borzym K., Market M., Wehrmeyer S., Borzym K., Market M., Wehrm
                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-94329561; PubMed-8052624;
Kitamoto Y., Yuan X., Wu Q., McCourt D.W., Sadler J.E.;
"Enterokinase, the initiator of intestinal digestion, is a mosaic protease composed of a distinctive assortment of domains.";
Proc. Natl. Acad. Sci. U.S.A. 91:7588-7592(1994).
-i- FUNCTION: RESPONSIBLE FOR INITIATING ACTIVATION OF PANCREATIC PROPERTYMES (TRYPSIN, CHYMOTRYPSIN AND CARBOXYPEPTIDASE A), IT CATALYZES THE CONVERSION OF TRYPSINGEN TO TRYPSINGEN, CHYMOTRYPSINGEN, CHYMOTRYPSINGEN, ACTIVATES OTHER PROENZYMES INCLUDING CHYMOTRYPSINOGEN, PROCARBOXYPEPTIDASES, AND PROELASTASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENTK_HUMAN P98073;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       _HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Enteropeptidase precursor (EC 3.4.21.9) (Enterokinase)
PRSS7 OR ENTK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Am.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Kitamoto Y., Veile R.A., Donis-Keller H., Sadler J.E.;
"CDNA sequence and chromosomal localization of human enterokinase, the proteolytic activator of trypsinogen.";
Biochemistry 34:4562-4568(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 749-1019 FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=20289799; PubMed=10830953;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                congenital
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=Duodenum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Holzinger A., Maier E.M.,
Haworth J.C., Moroz S.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., Pubmed=11719902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Duodenum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=95234679;
by diarrhea a SIMILARITY: I SIMILARITY: C SIMILARITY: C SIMILARITY: C
                                                                                                                                                                                                      SUBUNIT: HETERODIMER OF A CATALYTIC (LIGHT) CHAIN AND A MULTIDOMAIN (HEAVY) CHAIN LINKED BY A DISULFIDE BOND. SUBCELLULAR LOCATION: Type II membrane protein (Probable TISSUE SPECIFICITY: INTESTINAL BRUSH BORDER. PTM: THE CHAINS ARE DERIVED FROM A SINGLE PRECURSOR THAT
                                                                                                                            CLEAVED BY A TRYPSIN-LIKE PROTEASE.
DISEASE: Defects in PRSS7 are a cause of en a life-threatening intestinal malabsorption
                                                                                                                                                                                                                                                                                                             trypsinogen.
SUBUNIT: HET
                                                                                                                                                                                                                                                                                                                                                            CATALYTIC ACTIVITY: Selective cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hum. Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A., Maier E.M., Buck C., Mayerhofer P.U., Kappler M., C., Moroz S.P., Hadorn H.-B., Sadler J.E., Roscher A.; in the proenteropeptidase gene are the molecular cau enteropeptidase deficiency.";
n. Genet. 70:20-25(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Human)
and failure to thrive.
BELONGS TO PEPTIDASE FAMILY S1.
CONTAINS 2 LDL-RECEPTOR CLASS A
CONTAINS 2 CUB DOMAINS.
CONTAINS 1 SEA DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=7718557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                            of 6-Lys-|-Ile-7
                                                                                                                                                         enterokinase
                                                       A DOMAINS
                                                                                                                                                                                                           PRECURSOR THAT
                                                                                                                                                                                                                                                           (Probable)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Roscher A.A.;
                                                                                                                                 characterized
                                                                                                                                                         deficiency;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bloecker H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Polley A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S.E.,
                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of.
```

PROTEIN)

Y SIMILARITY). Y SIMILARITY). Y SIMILARITY).

```
DR CORRESPONDENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \text{C} \text{D} \text{C} \te
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; iPR000859; CUB_domain.
InterPro; iPR001314; Chymotrypsin.
InterPro; iPR0012172; LDL_recept_A.
InterPro; iPR000998; MAM_domain.
InterPro; iPR000082; SEA_domain.
InterPro; iPR001254; Ser_protease_Try.
InterPro; iPR001190; STOK_receptor.
Pfam; PF00057; idl_recept_a; 2.
                                                                                                                                                                                                                                                                                               Pfam; PF00089; trypsin; 1.
Pfam; PF00431; CUB; 2.
Pfam; PF00530; SRCR; 1.
Pfam; PF00530; SEA; 1.
Pfam; PF01390; SEA; 1.
Pfam; PF01390; SEA; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
SMART; SM00042; CUB; 2.
SMART; SM00192; LDLa; 2.
SMART; SM00192; LDLa; 2.
SMART; SM00200; SEA; 1.
       PROSITE; PS5024
PROSITE; PS0013
PROSITE; PS0013
S1gnal-anchor;
Serine protease
CHAIN
1
                                                                                                                                             SMART; SN
SMART; SN
PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires or send an email t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between the Swiss Institute of Bioinformat
the European Bioinformatics Institute. The
use by non-profit institutions as long
modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is between the Swiss Institute of Bioinforma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY:
SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      U09860 AAC50138.1;
Y19124 CAB65555.1;
Y19126 CAB65555.1;
Y19126 CAB65555.1;
Y19127 CAB65555.1;
Y19129 CAB65555.1;
Y19130 CAB65555.1;
Y19131 CAB65555.1;
Y19131 CAB65555.1;
Y19132 CAB65555.1;
Y19133 CAB65555.1;
Y19134 CAB65555.1;
Y19135 CAB65555.1;
Y19136 CAB65555.1;
Y19137 CAB65555.1;
Y19139 CAB65555.1;
Y19130 CAB65555.1;
Y19130 CAB65555.1;
Y19140 CAB65555.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         606635;
TE; PS01109; LDLRA_1; 2.
TE; PS01209; LDLRA_2; 2.
TE; PS00740; MAM_1; 1.
TE; PS00740; MAM_2; 1.
TE; PS00024; SEA; 1. FALSE_NEG.
TE; PS00420; SRCR_1; FALSE_NEG.
TE; PS00420; SRCR_2; 1.
TE; PS00130; TRYPSIN_DOM; 1.
TE; PS00134; TRYPSIN_HIS; 1.
TE; PS00134; TRYPSIN_HS; 1.
TE; PS00135; TRYPSIN_SER; 1.
TE; PS00135; TRYPSIN_SER; 1.
TE; PS00136; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00136; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00136; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00136; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00136; TRYPSIN_SER; 1.
TE; PS00137; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
TE; PS00138; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P00763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HGNC:9490; PRSS7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAB90392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAB90389
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHYMOTRYPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 SRCR DOMAIN.
1 MAM DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yright. It is produced through a collaboration of Bioinformatics and the EMBL outstation - Institute. There are no restrictions on its tions as long as its content is in no way
Repeat.
IC CHAIN (HEAVY CHAIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Уď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in no way
                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                       Ş
  Š
                                                 В
                                                                                    Š
                                                                                                                                        DЬ
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID DISULFID DISULFID DISULFID DISULFID DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                 394
                                                                                           165
                                                                                                                                                                                     137
                                                                                                                                                                                                                             287
                                                                                                                                                                                                                                                                                                                      227
                                                                                                                                                                                                                                                                          78
                                                                                                                                                                                                                                                                                                                                                                   28
                                                                                                                                                                                                                                                    KLSSGAKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA- 136
                                                                                                                                                                                                                                                                                                                                                          GRLASPGFPG----EYANDQER----RWTLTAPPGYRLRLYFTHFDLELSHLCE-YDFV
                                            ISTPTGPGGRQERVGLLSLPLDPTLEPACLSFWYHMYGENVHKLSINISNDQNMEKTVFQ
                                                                                           CSCRAG
                                                                                                                                                                                                                             ---GSSKIL----RASIWETNPGTIRIFS--NQVTATFLIE-SDESDYVGFNATYTAF
                                                                                                                                                                                                                                                                                                                  GRELLTGSSGSFQATHYPKPSETSVVCQWIIRVNQGLSIKLSFDDFNTYYTDILDIYEGV
                                                                                                                                   NSSELNNYEKINCNFEDGFCFWVQDLNDDNEWERIQGSTFSPFTGPNFDHTFGN-ASGFY
                                                                                                                                                                                                                                                                                                                                                                                                                193;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1019
                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

1019

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1019
18
47
                                                                                                                                                                                                                                                                                                                                                                                                                                11.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     112923
    ----YVLHRNK-----
                                                                                                                                                                                -----EDIDECQVAPGEAPTCDHHCHNHLGGFY
                                                                                                                                                                                                                                                                                                                                                                                                           112;
                                                                                                                                                                                                                                                                                                                                                                                                         Score 443; DB Pred. No. 1.7e 12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SIMILARITY (
CHARGE RELAY SYSTEM (
CHARGE RELAY (
CHARGE RELAY SYSTEM (
CHARGE RELAY (
CHARGE RELAY (
CHARGE RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATALYTIC CHAIN (LIGHT CHAIN).
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDL-RECEPTOR CLASS A 1. CUB 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CUB 2.
LDL-RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ë
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REF. 3).
B6AAA245F6D4A563 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
.7e-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASS
                                                                                                                                                                                                                                                                                                                                                                                                           258; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY).
  ---RTCSALCSGQVFT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ⋗
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY
(BY
YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RRNAKNEIDALSPIILIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
```

322;

Gaps

42;

77

286

170

190

164 334

```
RESULT 12
                                                                SEQUENCE FROM N.A.

TISSUB=Chorioallantoic membrane;
MEDLINE=9125732; PubMed=2044767;
Suzuki H., Harada A., Hayashi Y.,

Ogasawara T., Nagai Y.;

"Primary structure of the virus act
embryo. Its identity with the blood
                                                                                                                                                                                                                             P25155;
01-MAY-1992
01-MAY-1992
15-JUN-2002
Coagulation
                                                                                                                                                                                                                                                                                               CHICK
           TISSUE=Allantoic fluid;
MEDLINE=91065352; PubMed=2174359;
                                 SEQUENCE
                                                        FEBS
                                                                                                                                                    NCBI_TaxID=9031;
                                                                                                                                                                                      Eukaryota;
                                                                                                                                                                                                                                                                                   FA10_CHICK
                                                                                                                                                                                                                                                                                                                                                                                 922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          454
                                                                                                                                                                                                                                                                                                                                        976
                                                                                                                                                                                                                                                                                                                                                             639
                                                                                                                                                                                                                                                                                                                                                                                                                                               520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QDSLIRLQCNHKSCGKKLAAQDITPKIVGGSNAKEGAWPWVVGLYYGGRLLCGASLVSSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEGNYGDNWNYGQVTLNETVKFKVAFNAFKNKILSDIALDDISLTYGICNGSLYPEPTLV
                                                                                                                                                                                                                                                                                                                                                           FLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                                                                                   GFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALV
                                                                                                                                                                                                                                                                                                                                                                                                                                              HEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WLVSAAHCVYGRNLEPSKWTAILGLHMKSNLTSPQTVPRLIDEIVINPHYNRRK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WVLTAAHAVYEQKHDASALDIRMG-----TLKRL----SPHYTQAWSEAVFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENWTTQISND----VCQLLGL----GSGNSSKPIFSTDGGPFVKLNTAPDGHLILTPSQQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ETFYTMKVNDGKYVCEADGFWTSSKGEKSLPV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----CE-DGSDE-----ADC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETG----YELLQGHLPLKS
                                                                                                                                                                                                                                                                                                                                      -MCQENNRWFLAGVTSFG-YKCALPNRPGVYARVSRFTEWIQSFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FKANFTT-----GYHLGIP----EPCKA-----DHFQ--CKNGECVPLVNLCDGHLH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VETHPETLCPYDFLKIQTDREEH----GPFCGKTLPHRIETKSNTVTITFVTDESGDHTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTPPPELPTDCGGPFELWEPNTTFSSTNFPNSYPNLAFCVWILNAQKGKNIQLHFQE-FD
                                                                                                                                                                                                gallus
                                                                                                                                                                                                                   activating
                                 OF 41-55 AND 241-261.
  Ogasawara
                                                                                                                                                                                    Metazoa;
                                                     283:281-285(1991).
                                                                                                                                                                                                                             (Rel. 22, Created)
(Rel. 22, Last sequence update)
(Rel. 41, Last annotation update)
factor X precursor (EC 3.4.21.6)
                                                                                                                                                                          Aves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -C-EPVCG--LSARTTGGRIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INDVVEIRDGEEADSLLLAVYTGPGPVKDVFSTTNRMTVLLITNDVLARGG
                                                                                                                                                                                                (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                          DNDIAMMHLEFKVNYTDYIQPICLP-EENQVFPPGRNCSIA-GWGTVVYQ
                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                   protease)
                                                                                                                                                                         Neognathae;
                                                                                                                                                                                    Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFD
 Toyoda
                                                                 the blood
                                                                                                                                                                                                                     (VAP).
                                                                                                                                                                         Craniata; Vertebrata; Eute; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                 -QQQMPEYNITENMICAGYEEGGIDSCQGDSGGPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----VRFFNGTTNNNGLVRFRIQSIWHTACA
                                                                          activating
                                                                                                Wada
 Inocencio
                                                                 clotting
                                                                                                                                                                                                                                                                                   475
                                                                                              ×.
                                                                                                                                                                                                                                                                                   AA
                                                                         protease
                                                                                               Asaka J.-I.,
 N.M.,
                                                                                                                                                                                                                              (Stuart
                                                                 factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GVTTYK--AVIQYSCE
                                                                                                                                                                                                                                                                                                                                        1018
Hamaguchi
                                                                 from Xa.";
                                                                                                                                                                                    Euteleostomi;
                                                                                                                                                                                                                               factor)
                                                                                                Gotoh
                                                                          chick
                                                                                                                                                                          Phasianinae;
 3
                                                                                                .
                                                                                                                                                                                                                                                                                                                                                                                                     638
                                                                                                                                                                                                                                                                                                                                                                                                                                               578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          513
                                                                                                                                                                                                                                                                                                                                                                                                                           921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                572
 Signal;
SIGNAL
PROPEP
CHAIN
CHAIN
PROPEP
CHAIN
DOMAIN
                                                                                                                                                                                                                                                            Pfam;
Pfam;
                                                                                                                                                                                                                                                                                            InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                               InterPro;
InterPro;
                                                                                                                                                                                                                                                                                   Pfam;
                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---
                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                               InterPro;
```

뫄 Qy Вþ Qy 밁 Ωy B Ω 망 20

FA10

```
EMBL; D00844; BAA007
PIR; S15838; S15838.
HSSP; P00742; 1HCG.
                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           determinant of viral tropism EMBO J. 9:4189-4195(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nagai Y.;
"An endoprotease homologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY THE EXCISION OF TWO ARG RESIDUES AND ARE HE MORE DISULFIDE BONDS.
TISSUE SPECIFICITY: LIVER AND CHORIOALLANTOIC PYM: THE VITAMIN K-DEPENDENT, ENZYMATIC CARBOX GLUTAMIC ACID RESIDUES ALLOWS THE MODIFIED PROGLUTAMIC ACID RESIDUES AND ARE HEREDICALLY AND AREA HEREDICALLY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: Factor Xa is a vitamin K-dependent glycoprotein that converts prothrombin to thrombin in the presence of factor Va, calcium and phospholipid during blood clotting. CulcTion: VAP CLEAVES THE FUSION PROTEINS OF SENDAI VIRUS, NDV, AND INFLUENZA VIRUS A AT A SPECIFIC SINGLE ARGININE-CONTAINING SITE, AND PLAYS A KEY ROLE IN THE VIRAL SPREADING IN THE ALLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PTM: THE ACTIVATION PEPTIDE IS CLEAVED BY F INTRINSIC PARHWAY), OR BY FACTOR VIIA (IN T SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
SIMILARITY: CONTAINS 2 EGF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATALYTIC ACTIVITY: Preferential cleavage: Arg-|-Thr and then Arg-|-Ile bonds in prothrombin to form thrombin. SUBUNIT: THE TWO CHAINS ARE FORMED FROM A SINGLE-CHAIN PRECURSOR
                                                                                                                                BAA00724.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MIN K-DEPENDENT, ENZYMATIC CARBOXYLATION RESIDUES ALLOWS THE MODIFIED PROTEIN TO
                                                                                                                                       .'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to the blood clotting
n in chick embryo.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FACTOR IXA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FOR IXA (IN THE EXTRINSIC PATHWAY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor X as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOGETHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OF S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALLANTOIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ç
```

밁 Q Ър QY 망 QΥ 밁 Qγ В

PRINTS; PRO0010; EGFBLOOD.

PRINTS; PRO0010; EGFBLOOD.

SMART; SM00179; EGF\_CA; 1.

SMART; SM00079; EGLA; 1.

SMART; SM00020; Tryp\_SPC; 1.

PROSITE; PS00010; ASX\_HYDROXYL; 1.

PROSITE; PS001022; EGF\_1; 1.

PROSITE; PS01186; EGF\_2; 2.

PROSITE; PS01187; EGF\_CA; 1.

PROSITE; PS01187; EGF\_CA; 1.

PROSITE; PS01187; EGF\_CA; 1.

PROSITE; PS01187; EGF\_CA; 1.

PROSITE; PS00114; GLU\_CARBOXYLATION; 1.

PROSITE; PS00134; TRYPSIN\_DOM; 1.

PROSITE; PS00134; TRYPSIN\_DOM; 1. Glycoprotein; Hydrolase; Serine protease; FGamma-carboxyglutamic acid; Hydroxylation; PROSITE; PS00135; PRINTS; PR00722; MEROPS; S01.216; PF00089; PF00008; Zymogen; ; IPR000561; ; IPR000742; ; IPR001881; ; IPR001438; ; IPR002383; IPR001254; IPR000294; IPR000152; IPR001314; 21 41 186 186 242 86 trypsin; 1. gla; 1. EGF; 2. CHYMOTRYPSIN EGF-like TRYPSIN\_SER; 20 40 180 475 241 475 122 EGF\_Ca. Ser\_protease\_ VitK\_dep\_GLA. EGF-like. EGF\_2. Asx\_hydroxyl Chymotrypsin GLA\_blood domain; FACTOR X LIGHT CHAIN.
FACTOR X HEAVY CHAIN.
ACTIVATION PEPTIDE. ACTIVATED FACTOR XA, HEAVY CHAIN. EGF-LIKE 1, CALCIUM-BINDING (POTENTIAL). OR R protease; Plasma; Blood coagulation; roxylation; Calcium-binding; Vitamin Repeat. 

Vitamin K;

```
S
                                                    В
                                                                            ð
                                                                                                          В
                                                                                                                                Ş
                                                                                                                                                                  В
                                                                                                                                                                                           Š
                                                                                                                                                                                                                           무
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                    ches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOD_RES
                                                                                                                                        257
                                                                                                                                                                                               197
                                                                                                                                                                                                                                                    150
                                                                                                                                                                   150
                                                                                                                                                                                                                           95
                                                                                                                                                                                                                                                                                57
                                                                                                                                                                                                                                                                                                            90
                                                                                                                                                                                                                                       CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA
                       DLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVC
                                                                                                                                     PFCGKTLPHRIE----TKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGH
NGSS----ITDPNVDT
                                                                                                                                                                                           SSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDFLKIQTDREEHG
                                                                               VSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPD
                                                                                                                                                                                                                                                                                                                                      al Similarity
143; Conserv
                                                                                                            ·CGKVLMKRIKRSVILPTNSNT--
                                                                                                                                                                                                                       ---CHYGGQCKDGLGSYTCSCLDGYQGKNCEFVIPKYCKINNGDCEQFCSIKKSVQKD---
                                                                                                                                                                                                                                                                                                                                                                                           285
475
                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             125
241
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                --VVCSCT-----SGYELAEDGKQCVSKVKYP
                                                                                                                                                                                                                                                                                                                                                                                               A
A
                                                                                                                                                                                                                                                                                                                                                                                                            103
282
328
425
1101
1110
1150
1150
1157
1157
2283
2283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           168
475
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                                                                                                                                                                                                                                               53142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           79
                                                                                                                                                                                                                                                                                                                                                11.28;
23.18;
                                                                                                                                                                                                                                                                                                                                                                                               ₹:
                                                                                                                                                                                                                                                                                                                                                                                      (BY SIMILARITY).

HYDROXYLATION (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

BY SIMILARITY.

BY SIMILAR
                                                                                                                                                                                                                                                                                                                                      78;
                                                                                                                                                                                                                                                                                ----REAFEDNEKTEEFWNIYV--DGDQCSSNP---
                                                                                                                                                                                                                                                                                                                                   Pred. No. 2.5e
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                     Score 422;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BY SIMILARITY).
GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EGF-LIKE 2.
SERINE PROTEASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY SIMILARITY)
                                                                                                          -NATSDQDVPST--
                                                                                                                                                                                                                                                                                                                                                   DB 1;
.5e-24;
                                                                                                                                                                                                                                                                                                                                       169;
                                                                                                                                                                                                                                                                                                                                                             Length 475;
                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACID
                                                                                                                                                                                                                                                                                                                                      230;
                                                   PPR
                                                                                                          NGS
                                                                                                                                                                                                                                                                                                                                   Gaps
                        430
                                                                               370
                                                                                                                                     310
                                                                                                                                                                                                                                                    196
                                                   227
                                                                                                          209
                                                                                                                                                                                                                        149
                                                                                                                                                                                                                                                                              94
                                                                                                                                                                                                                                                                                                                                      26;
```

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPT_RAT
P06866;
01-JAN-1988
01-FEB-1991
01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RAT
                                                                                                "Comparative sequence analysis of the N-terminal region of rat, rabbit, and dog haptoglobin beta-chains"; comp. Biochem. Physiol. 55B:453-459(1976).

-i- FUNCTION: HAPTOGLOBIN COMBINES WITH FREE PLASMA HEMOGLOBIN, PREVENTING LOSS OF IRON THROUGH THE KIDNEYS AND PROTECTING KIDNEYS FROM DAMAGE BY HEMOGLOBIN, WHILE MAKING THE HEMOGLO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat)
Eukaryota; Metazoa; Cho
Mammalia; Eutheria; Rod
                                                                                                                                                                                                                                                                                                       Goldstein L.A., Heath E.C.; "Nucleotide sequence of rat haptoglobin cDNA. Characterization alpha beta-subunit junction region of prohaptoglobin."; J. Biol. Chem. 259:9212-9217(1984).
                                                                                                                                                                              SEQUENCE OF 103-142.
MEDLINE=77025019; PubMed=975782;
Kurosky A., Kim H.H., Touchstone
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE=90205837;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Marinkovic S., Baumann
                                                                                                                                                                                                                                           "Biosynthesis
                                                                                                                                                                                                                                                                   SEQUENCE OF 19-43 AND 103-127.
MEDLINE-83238370; PubMed-6863267;
                                                                                                                                                                                                                                                                                                                                                             MEDLINE=84264555;
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                          "Structure, hormonal interleukin-6- and d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Haptoglobin
HP.
                                                                                                                                                                                                                                                                                                                                                                                                               naptoglobin
                                                                                                                                                                                                                                                                                                                                                                                                                                       Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13
                                                                                                                                                                                                                                Biol.
                                                ACCESSIBLE TO DEGRADATIVE ENZYMES.
SUBUNIT: TETRAMER OF TWO ALPHA AND TWO
SUBCELLULAR LOCATION: Extracellular.
TISSUE SPECIFICITY: SYNTHESIZED IN THE
              SIMILARITY: PROTEASES, I
  CORRESPONDING
                                       IN PLASMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GKYGVYTKLSRFLRWVRTVM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GQYGVYTKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EYVVPACLPQADFANEVLMNQKSGMVSGFGREFEAGRLSKRLKVLEVPYVDRSTCKQS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SNITPICLPRKE-AESEMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKE----IKVVVGEVDREKEEHSETTHTAEKIFVHSKYIAET-YDNDIALIKLKEPIQFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QKHDASALDIRMGTLKRLSPHYTQA--WSEAVFIHEGYTHDAGFDNDIALIKLNNKVVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EPVCGLSARTTGGRIYGGQKAKPGDFPWQVLIL---GGTTAAGALLYDNWVLTAAHAVYE
                                                                                                                                                                                                                                Chem.
                                                                                                                                                                                                                                                                                                                                                                          OF 76-347 FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TNFAITENMFCAGYETEQKDACQGDSGGPHVTRYKDT--YFVTGIVSWGE-GCARK
                                                                                                                                                                                                                                                                                                                                                                                                  Biol. 10:1573-1583(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                              gene.
                                                                                                                                                                                                                               Haugen T.H., Heath E.C. s and processing of rat m. 258:7858-7869(1983).
: ALTHOUGH THE BETA CHAIN IS CLEARLY RELATED TO HAPTOGLOBIN HAS NO ENZYMATIC ACTIVITY. POSITION ING TO THE PROTEOLYTIC ACTIVE SITE RESIDUES OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17, Last
34, Last
                                                                                                                                                                                                                                                                                                                                                             PubMed=6204979;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=2320005;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ·RIVGGDECRPGECPWQAVLINEKGEEFCGGTILNEDFILTAAHCINQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                          dexamethasone-responsive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
Rođentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                    regulation,
                                                                                                                                                                              Touchstone B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ξ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence u
annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             on update)
                                                                                                                                                                                                                                            haptoglobin.";
                                                                                                                                                                                                                                                                                                                                                                                                                          identification consive element
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 347
                                                  LIVER,
                                                                            BETA
                                                                            CHAINS
                                                   THEN
                                                                                                                                                                                                                                                                                                                                                                                                                           of of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
Murinae; Rat
                                                   RELEASED
                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                    HEMOGLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                           rat
                          SERINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus
                                                                                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  341
```

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                               CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaborate between the Swiss Institute of Bioinformatics and the EMBL outstatiful the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer entities requires a license agreement (See http://www.ish-sih.ch/annow.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0722; CHYMOTRYPSIN.
SMART; SMO0032; CCE; 1.
SMART; SMO0020; TRYP_SPC; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1.
Glycoprotein; Serine protease homolog; Plasma; Hemoglobin-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000436; Sushi
Pfam; PF00084; sushi; 1.
Pfam; PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Acute phase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001314;
InterPro; IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P00734; 1BA8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; A20881; HPRT. PIR; A34784; A34784.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or send an email to license@isb-sib.ch).
                                                                                                                                                                                    142
 312
                              649
                                                                                                                                                      540
                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                            426
                                                                                                                       195
                                                                                                                                                                                                                                                                                                                                       366 CGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEK 425
                                                                                                                                                                                                                                               82
                                                                                                                                                                                                                                                                                                          33
                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROTEASES
AAGILSF-DKSCAVA-EYGVYVKATDLKDWVQETMA
                   VGGIVSWGSMNCGEAGQYGYYTKVINYIPWIENIIS
                                                       LHYEKSTYPEKKGAVTPYGYQPILNKHTFCAGLTKYEEDTCYGDAGSAFAVHDTEEDTWY
                                                                                                                      NKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCT
                                                                                                                                                                                    AQNLF-LNHSENA----
                                                                                                                                                                                                               AHAVYEQKHDASALDIRMGTLKRLSPHYT - - QAWSEAVFIHEGYTHDAGFDNDIALIKLN
                                                                                                                                                                                                                                             KLPKCEAVCGKPKHPVDQVQRIIGGSMDAKGSFPWQAKMISRHGLTTGATLISDQWLLTT
                                                                                                                                                                                                                                                                         SLPVCEPVCGLSARTTG--GRIYGGQKAKPGDFPWQVLILG--GTTAAGALLYDNWVLTA 48:
                                                                                                                                                                                                                                                                                                          CPKPPEIANGYVEHL-----VRYRCRQFYKLQTEGDGIYTLNSEKQWVNPAAGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            M34232; AAA41348.1; ALT_SEQ.
M34230; AAA41348.1; JOINED.
M34231; AAA41348.1; JOINED.
K01933; AAA41349.1; -.
                                                                                                                                                                                                                                                                                                                                                                       101;
                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S01.972;
                                                                                                                                                                                                                                                                                                                                                                                                                                  332
347 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               103
103
103
33
33
52
90
250
292
148
152
                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ARE OCCUPIED
                                                                                                                                                                                                                                                                                                                                                                                                                                  AA;
                                                                                       RGSVT----
                                                                                                                                                                                                                                                                                                                                                                                                                                             101
347
347
347
207
207
207
2081
148
152
152
332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                  38549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chymotrypsin.
Ser_protease_Try.
Sushi_SCR_CCP.
                                                                                                                                                                                                                                                                                                                                                                                    11.1%;
30.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ignal.
                                                                                                                                                                                  -TAKDIAPTLTLYVGKNQLVEIEKVVLHPERSVVDIGLIKLK
                                                                                                                                                                                                                                                                                                                                                                                                                                  MW.
                                                                                                                                                                                                                                                                                                                                                                    52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY DIFFERENT AMINO ACIDS IN HAPTOGLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (
                                                                                                                                                                                                                                                                                                                                                                                    Score 419;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERCHAIN (WITH ALPHA) (BY SIMILARITY).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SERINE PROTEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HAPTOGLOBIN ALPHA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERCHAIN (ALPHA-BETA)
                                                                                       ANMLCAGLESGGKDSCRGDSGGALVFLDSETERWF
                                                                                                                                                                                                                                                                                                                                                                                                                             -> D (IN REF. 3).
-> R (IN REF. 2).
BF0073DCAA8705C9
                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
.8e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALPHA CHAIN.
                            684
                                                                                                                                                                                                                                                                                                                                                                       143;
                                                                                                                                                                                                                                                                                                                                                                                               Length 347;
                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                     40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a collaboration - MBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in no way commercial
                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                            311
                                                                                         648
                                                                                                                                                                                  194
                                                                                                                                                                                                               539
                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                          81
                                                                                                                      25]
                                                                                                                                                    599
```

```
ENTRULT 14
ENTRUTT
ID ENTR
AC P9807
DT 01-FP
DT 01-FP
DT 01-FF
DT 
                    Pfam; PF
PRINTS;
SMART; S
SMART; S
SMART; S
SMART; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-1996
01-FEB-1996
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-Duodenal mucosa;

MEDILINE-94327548; PubMed-8051081;

Matsushima M., Ichinose M., Yahagi N., Kakei N., Tsukada S.,

Miki K., Kurokawa K., Tashiro K., Shiokawa K., Shinomiya K.,

Miki K., Kurokawa K., Tashiro K., Shiokawa K., Shinomiya K.,

Umeyama H., Inoue H., Takahashi T., Takahashi K.;

"Structural characterization of porcine enteropeptidase.";

J. Biol. Chem. 269:1996-19982(1994).

J. Biol. Chem. 269:0851BLE FOR INTIGING ACTIVATION OF PANCREATIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENTK_PIG P98074;
                                                                                                                                                                                                                Pfam;
Pfam;
Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sus scrofa (Pig).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                            Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRSS7 OR ENTK
                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Enteropeptidase
                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PTM: THE MINI CHAIN MAY BE CLEAVED BY ELASTASE.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
SIMILARITY: CONTAINS 2 LDL-RECEPTOR CLASS A DOMAINS.
SIMILARITY: CONTAINS 2 CUB DOMAINS.
SIMILARITY: CONTAINS 1 SEA DOMAIN.
SIMILARITY: CONTAINS 1 SECR DOMAIN.
SIMILARITY: CONTAINS 1 SECR DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROCARBOXYPEPTIDASES, AND PROELASTASES.
CATALYTIC ACTIVITY: Selective cleavage of
trypsinogen.
SUBUNIT: HETEROTRIMER OF A CATALYTIC (LIGH
(HEAVY) CHAIN, AND A MINI CHAIN.
SUBCELLULAR LOCATION: Type II membrane pro
PTM: THE CHAINS ARE DERIVED EROM A SINGLE
                      PF01372; CH1MV...
S; PR00722; CUB; 2.
; SM00042; CUB; 2.
F; SM00192; LDLa; 2.
(T; SM00137; MAM; 1.
; M00200; SEA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLEAVED BY A TRYPSIN-LIKE PROTEASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROTEOLYTIC PROENZYMES (TRYPSIN, CHYMOTRYPSIN AND CARBOXYPEPTIDASE A). IT CATALYZES THE CONVERSION OF TRYPSINOGEN TO TRYPSIN WHICH IN TURN ACTIVATES OTHER PROENZYMES INCLUDING CHYMOTRYPSINOGEN,
                                                                                                                                                                                                                     PF00431;
PF00530;
                                                                                                                                                                   PF01390;
                                                                                                                                                                                            PF00629;
                                                                                                                                                                                                                                                                     PF00089;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P00763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D30799; BAA06459.1; -.
                                                                                                                                                                                                                                                                                            PF00057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S01.156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          requires
                                                                                                                                                                                                                                                                                                                                                                                                             IPR001314;
IPR002172;
                                                                                                                                                                                                                                                                                                                  IPR001254;
IPR001190;
                                                                                                                                                                                                                                                                                                                                                                IPR000998;
IPR000082;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   equires a license agreement (See http://www.isb-sib.ch/announce/
email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Rel. 33, Created)
(Rel. 33, Last sec
(Rel. 41, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HETEROTRIMER OF A CATALYTIC (LIGHT) CHAIN, A MULTIDOMAIN
                                                                                                                                                                                                                trypsin;
CUB; 2.
SRCR; 1.
                                                                                                                                                                 MAM;
SEA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1DPO.
                                                                                                                                                                                                                                                                                            ldl_recept_a;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
Tryp_SPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    precursor
                                                                                                                                          CHYMOTRYPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                             Chymotrypsin.
LDL_recept_A.
                                                                                                                                                                                                                                                                                                             Srcr_receptor
                                                                                                                                                                                                                                                                                                                                                                                      MAM_domain.
                                                                                                                                                                                                                                                                                                                                       Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                  SEA_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update,
Last annotation update)
irsor (EC 3.4.21.9) (Ente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Selective cleavage of 6-Lys-|-Ile-7 bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Enterokinase)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Probable)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n
```

```
Ş
                                                                  Query Ma
Best Loc
Matches
                                                                         CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                   CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                       CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                  CARBOHYD
CARBOHYD
                                                                                                                                                                                   CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                           DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
ACT_SITE
LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
PROSITE;
PROSITE;
PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                       Local L
             46
   RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PS01180;
PS01209;
PS0068;
PS00740;
PS50060;
PS50024;
PS500420;
PS50247;
PS50247;
PS50247;
PS50247;
PS50240;
PS50240;
PS50240;
PS50240;
                                      Similarity
                                                                 48
52
197
240
357
539
656
693
800
840
891
                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                മ
                                                                 ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDLRA_1; 2.
LDLRA_2; 2.
MAM_1; 1.
MAM_2; 1.
SEA; 1; FALSE
SRCR_1; FALSE
SRCR_2; 1.
SRCR_2; 1.
SRCR_2; 1.
SRCR_2; 1.
SRCR_1; FALSE
SRCR_2; 1.
SRCR_2; 1.
SRCR_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lycoprotein; Myristate; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zymogen;
117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CUB; 2.
LDLRA_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         799
1034
18
47
                                                                                                                                                                                                                                                                            212
212
225
236
670
683
692
911
841
992
971
                                                                                                                                                                                                                                                                                                                                                                                     1034
169
238
349
519
519
649
694
1034
1034
1034
                                      11.1%;
21.5%;
                                                                 114776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Transmembrane;
                              107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FALSE_NEG
                                                                                                                                                                                                                                                       SEA.

LDL-RECEPTOR CLASS A 1.

CUB 1.

MAM.

CUB 2.

LDL-RECEPTOR CLASS A 2.

SECR.

SERINE PROTEASE.

CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE RELAY SYSTEM (BY SIMIL CHARGE PROTENTIAL).

BY SIMILARITY.

                                                                MW;
                                                                                N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                                             N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANSMEMBITANE: Repeat.

NON-CATALYTIC M CHAIN (MINI CHAIN).

NON-CATALYTIC H CHAIN (HEAVY CHAIN).

CATALYTIC L CHAIN (LIGHT CHAIN).

CYTOPLASMIC (POTENTIAL).

SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                              Score 418.5;
                                                                         N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>-</u>
                            ed. No. 1.26
Mismatches
                                                                0388C64CF64CC368
                                                                                                                                                                                                                                       (GLCNAC.
(GLCNAC.
(GLCNAC.
                                                                         (GLCNAC.
(GLCNAC.
                                                                                                  (GLCNAC
(GLCNAC
                                                                                                                             (GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
                                                                                                                                                                                           (GLCNAC.
                                                                                                                                                                                                                     (GLCNAC.
                            nes 258;
                                              BG
                                           Length
                             Indels
                                                                CRC64;
                                                                                                                                                                                                 (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                         (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                       (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                    Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                     (POTENTIAL).
                                                                         (POTENTIAL)
                                                                                                                                                                                           (POTENTIAL)
                                              1034;
                            305;
                            Gaps
            100
                             36
  Ş
                                                                                                                                                                                  ₽
                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                               1020
                                                                                                                                                                 670
                                                                                                                                                                                  963
                                                                                                                                                                                                    610
                                                                                                                                                                                                                     910
                                                                                                                                                                                                                                                                                                              438
                                                                                                                                                                                                                                                                                                                                734
                                                                                                                                                                                                                                                                                                                                                                    690
                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            315
                                                                                                                                                                                                                                       551
                                                                                                                                                                                                                                                         851
                                                                                                                                                                                                                                                                           494
                                                                                                                                                                                                                                                                                             791
                                                                                                                                                                                                                                                                                                                                                  415
                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                        306
                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                269
                                                                                                                                               ARVPKFTEWIQSFL
                                                                                                                                                               TKVINYIPWIENII
                                                                                                                                                                                                                                                                                                                                LGLGT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NPGTIRIFS --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QWIIRVNQGLSIELNFSYFN-------TYSMDVLNIYEGVGSSKILRASLWLM
                                                                                                                                               1033
                                                                                                                                                                683
```

```
QVAQEVSPKIVGGNDSREGAWPWVVALYYNGQLLCGASLVSRDWLVSAAHCVYGRNLEPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRPMPA
                                                                                                                                                                                                                                                                                                                                                                                                                                          GSYTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFYGGIVSWGSMNCGEAGQYGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CSIVDCGPPDDLPSGRVEYITG----PGVTTYK--AVIQYSCEETFYTMKVNDGKYVCEA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H----GPFCGKTLPHRIETKSNTVTITEVTDESGDHTGWKIHYTS-----TAQPCPYPMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TFTSMNFPNNYPNQAFCVWNLNAQKGKNIQLHF-EEFDLENIA-----DVVEIRDGEED
                                                                                                                                                                                                                                                                                                                                                                                                                  YNITENMMCAGYEEGGIDSCQGDSGGPLMCL--ENNRWLLAGVTSFG-YQCALPNRPGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KWKAILGLHMTSNLTSPQIVTRLIDEIVINPHYNRRK-DSDIAMMHLEFKVNYTDYIQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DGFWTSSKGEKSLPV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KVAFNAFKNQFLSDIALDDISLTYGICNVSLYPEPTLVPTSPPELPTDCGGPFELWEPNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTLEPVCLSFWYYMYGENVYKLSINISNDQNIEKIIFQKEGNYGENWNYGQVTLNETVEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ICLP - - EENQVFPPGRICSIAGWGKVIYQGSPADILQEADVPLLSNEKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALDIRMG---TLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DSLLLAVYTGPGPVEDVFSTTNRMTVLFITNDALTKGGFKANFTTGYHLGIPEPCK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IQDLNDDNEWERIQGTTFPPFTGPNFDHTFGN-ASGFYISTPTGPGGRQERVGLLSLPLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -PGKDTFYSLGSSLDTTFRSDYSNEKPFTGFEAFYAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ARTTGGRIYGGQKAKPGDFPWQV-LILGGTTAAGA-LLYDNWVLTAAHAVYEQKHDAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -GNSSMPFFSSGGGPFVKLNTAPNGSLILTASEQCFEDSLILLQCNHKSCGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NQVTVTFLIE-SDENDYIGFNATYTAFNSTELNNDEKINCNFEDGFCFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YVLHRNKRTCSALCS--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----VRFLNGTANNSGLVQFRIQSIWHTACAENWTTQTSDD----VCQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EDNFQ--CENGECVLLVNL-----CDGFSHCKDGSDE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSPE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GOVETQRSGEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -C-EPVCGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -QQQMPE

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          170
                                                                                                                                                                                                                                                                                                                                                                                                                  1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
```

```
THE THEFT THE THE KKK DORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCCCCCRTTAX
                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00008; EGF; 2.

Pfam; PF004031; CUB; 5.

Pfam; PF00400; Astacin; 1.

PRINTS; PR00480; ASTACIN.

SMART; SM00042; CUB; 5.

SMART; SM00179; EGF_CA; 2.

MART; SM00179; EGF_CA; 2.

MART; SM0018; ZINC_PROTEASE; 1.

PROSITE; PS00142; ZINC_PROTEASE; 1.

PROSITE; PS001180; CUB; 5.

PROSITE; PS00102; EGF_2; 2.

PROSITE; PS001187; EGF_CA; 2.

PROSITE; PS01186; EGF_2; 2.

PROSITE; PS01187; EGF_CA; 2.
    DOMAIN
METAL
ACT_SITE
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000859;
InterPro; IPR000561;
InterPro; IPR001881;
InterPro; IPR000130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [1]
SEQUENCE FROM PROPERTY OF THE PROPERTY OF 
                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                              PROPEP
CHAIN
                                                                                                DOMAIN
DOMAIN
                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         modified and this statement is not removentities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                               Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                         Metalloprotease;
                                                                                                                                                                                                                                                                                                                                                                               Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; L24755; AAA37306.1; HSSP; P00736; 1APQ. MEROPS; M12.005; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fukagawa M., Noboru S., Hogan B.L.M., Jones C.M.; "Embryonic expression of mouse bone morphogenetic which is related to the Drosophila dorsoventral generodes a putative astacin metalloendopeptidase."; Dev. Biol. 163:175-183(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Embryo;
MEDLINE=94229342; PubMed=8174772;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR001506;
InterPro; IPR000152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:88176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEMBRANOUS AND ENDOCHONDRAL BONE, SUBMUCOSA OF OF SKILD AND THE MESENCHYME OF SPLEEN AND LUNG. SIMILARITY: BELONGS TO PEPTIDASE FAMILY M12A. SIMILARITY: CONTAINS 2 EGF-LIKE DOMAINS. SIMILARITY: CONTAINS 5 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AND II. INDUCES CARTILAGE AND BONE FORMATION. CATALYTIC ACTIVITY: Cleavage of the C-terminal Ala-|-Asp in type I and II procollagens and at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COFACTOR: BINDS 1 ZINC ION (BY SIMILARITY).
ENZYME REGULATION: ACTIVITY IS INCREASED BY THE
ENDOPEPTIDASE ENHANCER PROTEIN.
TISSUE SPECIFICITY: AT HIGH LEVELS IN EMBRYONIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND
                                                                                                                                                                                                                                                                                                                                                  factor; Cytokine; Repeat; Bone; Cartilage; Hydrolase;
oprotease; EGF-like domain; Zinc; Calcium; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FLOOR PLATE REGION OF THE NEURAL
2 ymogen.
1 ymogen.
26 125
26 991
6 991
6 326
7 439
7 551
593
707
748
864
864
981
218
219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bmp1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CUB_domain.
EGF-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Asx_hydroxyl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zn_MTpeptdse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Astacin
                                                         POTENTIAL.

POTENTIAL.

BONE MORPHOGENETIC F
METALLOPROTEASE.

CUB 1.

CUB 2.

EGF-LIKE 1, CALCIUM

CUB 3.

EGF-LIKE 2, CALCIUM

CUB 4.

CUB 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       is not removed.
  ZINC (CATALYTIC)
BY SIMILARITY.
ZINC (CATALYTIC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IN EMBRYONIC
AL TUBE. LESS
                                                                                                                     CALCIUM-BINDING
                                                                                                                                                                CALCIUM-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Usage
  (BY
                                                (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cic protein-1 (BMP-1), gene tolloid and
                                                                                                                                                                                                                                                              PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OF.
                                                  SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTESTINE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  propeptide
Arg-|-Asp |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IN DEVELO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ЬУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROCOLLAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROCOLLAGEN I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEVELOPING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                   (POTENTIAL)
                                                                                                                                                                (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           e at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DECIDUUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DERMIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       commercia
```

```
RESULT 16
FA9_CANFA
 RRP RC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Matc
Best Local
                                                                                                                                                               01-FEB-1991
01-FEB-1991
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                           FA9_CANFA P19540;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
                     SEQUENCE FROM N.A.
                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                  Coagulation
TISSUE-Liver;
                                                       NCBI_TaxID=9615;
                                                                                                             Canis familiaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               810
                                                                                                                                                                                                                                                                                                                                                                          394
                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -KGFKAHFFS-DKDECSKDNG---GCQQDCVNTFGSYECQCRSGFVLHDNKHDCKEAGCE
                                                                                                                                                                                                                                                                                                                                     FHSDDTI-----SKKGFHLRYTSTKFQDTL 987
                                                                                                                                                                                                                                                                                                                                                                          YSCEETFYTMKVNDGKYVCEADGF----WTSSKGEKSL
                                                                                                                                                                                                                                                                                                                                                                                                              FEVEEETDCGYDYIELFDGYDSTAPRLGRYCGSGPPEEV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YPMAPPNGHVSPVQAKYILKDSFS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HKV-TSTSGTITSPNWPDKYPSKKECTWAISSTPGHRVKLTFVE-MDIESQPE--CAYDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GQVFTQRSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC-SALCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VCKYDFVEVRSGLTADSKLHGKFCGSEK-----PEVITSQYNNMRVEFKSDNTVSK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LCEYDFVKLSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGFLTKLN-----GSITSPGWPKEYPPNKNCIWQLVAPTQYRISLQFDFFETEGND
                                                                                                                                                                                                                                                                                                                                                                                                                                                   FTAVCQKD-----GSWDRPMPACS-IVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------GQVRADVKTKDLYSHAQFGDNNYPGGVDCEWVIVAEEGYGV---ELVFQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LEVFDGRDAKAPVLGRFCGSKKPEPVLATGNRMFLRFYSDNSVQRKGFQASHSTECG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              991 AA;
                                                                                                                                        (Rel. 17, Created)
(Rel. 17, Last sequence update)
(Rel. 41, Last annotation update)
factor IX precursor (EC 3.4.21.22) (Christmas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                              (Dog).
oa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228
353
353
4402
4566
515
515
568
577
577
572
723
723
747
747
747
747
747
747
                                                                           Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              111607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11.18; 27.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZINC (CATALYTIC
BY SIMILARITY

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 416.5;
Pred. No. 1.
                                                                         Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -LINKED (GLCNAC...-
-LINKED (GLCNAC...-
-LINKED (GLCNAC...-
-LINKED (GLCNAC...-
-LINKED (GLCNAC...-
-LINKED (GLCNAC...-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NC (CATALYTIC)
SIMILARITY.
                                                                                                                                                                                                                                            452
                                                                                                                                                                                                                                            ĄΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .6e-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IFCETGYELLOGHLPLKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .) (PO'
CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                YSAGDSV-----LVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
                                                                         Euteleostomi;
Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1991;
                                                                                                                                                  factor).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
```

20;

```
DR Pfam; PF00008; EGF; 2.

DR Pfam; PF00008; EGF; 2.

Pfam; PF00089; trypsin; 1.

DR Pfam; PF00089; trypsin; 1.

DR PRINTS; PR00722; CHYMOTRYPSIN.

DR PRINTS; PR00721; GLABLOOD.

NART; SM00179; EGF_CA; 1.

SMART; SM00069; GLA; 1.

PROSITE; PS00010; ASX, HYDROXYL; 1.

PROSITE; PS00010; ASX, HYDROXYL; 1.

PROSITE; PS01186; EGF_CA; 1.

NOSITE; PS01187; EGF_CA; 1.

NOSITE; PS0001317; TRYPSIN_DOM; 1.

OSITE; PS00134; TRYPSIN_SER; 1.

Nd Coagulation; Plasma; Ser*
                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARIANT HEMOPHILIA B GLU-418.

MEDLINE-90099303; PubMed-2481310;

Evans J.P., Brinkhous K.M., Brayer G.D., Reisner H.M.,

"Canine hemophilia B resulting from a point mutation w.

"Canine hemophilia B resulting from a point mutation w.
                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000561; EGF-like.
InterPro; IPR000742; EGF_2.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR002383; GLA_blood.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M21757; AAA75006.1; -. EMBL; M33826; AAA30844.1; -. PIR; A30351; A30351. HSSP; P00740; 1CFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-89323338; PubMed-2752110; Evans J.P., Watzke H.H., Ware J.L., St "Molecular cloning of a cDNA encoding Blood 74:207-212(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-90311364; PubMed-2367529; Axelrod J.H., Read M.S., Brinkhou "Phenotypic correction of factor hemophilic dogs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEROPS; S01.214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FORM FACTOR IX IS ACTIVATED BY FACTOR XIA, WHICH EXCIS SUBUNIT: FACTOR IX IS ACTIVATED BY FACTOR XIA, WHICH EXCIS ACTIVATION PEPTIDE AND THUS PRODUCES A MOLECULE CONSISTING CHAINS HELD TOGETHER BY ONE OR MORE DISULFIDE BONDS. CHAINS HELD TOGETHER BY DIE TO DEFECTS IN FACTOR IX. MISCELLANEOUS: CALCIUM BINDS TO THE GAMMA-CARROXYGLUTAMIC (GLA) RESIDUES AND, WITH STRONGER AFFINITY, TO ANOTHER SIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C. Natl. Acad. Sci. U.S.A. 86:10095-10099(1989).
FUNCTION: FACTOR IX IS A VITAMIN K-DEPENDENT PLASMA PROTEIN THAT PARTICIPATES IN THE INTRINSIC PATHWAY OF BLOOD COAGULATION BY CONVERTING FACTOR X TO ITS ACTIVE FORM IN THE PRESENCE OF CA++ IONS, PHOSPHOLIPIDS, AND FACTOR VIIIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. SIMILARITY: CONTAINS 2 EGF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATALYTIC ACTIVITY: Hydrolyzes one Arg-|-Ile bond in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BEYOND THE GLA DOMAIN.
SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Natl. Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brinkhous K.M.,
                                            Serine protease; Calcium-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87:5173-5177(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IX deficiency in sk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stafford ng canine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D.W., High factor IX."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANOTHER SITE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONSISTING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     with unusual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fibroblasts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            K.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EXCISES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor X to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΟĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of
```

```
Š
                                                        В
                                                                                 Š
                                                                                                                В
                                                                                                                                       δÃ
                                                                                                                                                                                               20
  밁
                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hemophilia;
Repeat; Dise
SIGNAL
PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                          MOD_RES
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                  ACT_SITE
ACT_SITE
ACT_SITE
VARIANT
                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                    447
                                                                                                                178
                             500
                                                         220
                                                                                                                                                                      150
                                                                                                                                                                                                 328 CETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTT
                                                                      GGQKAKPGDFPWQVLILGGTTA--AGALLYDNWVLTAAHAVYEQKHDASALDIRM-----
                                                                                                                                         YKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLP-VCEPVCGLSARTTGGRIY 446
EHNTEKR----EHTEQKRNVIRTILHHSYNATINKYNHDIALLELDEPLTLNSYVTPICIA
                          --GTLKRLSPHYTQAWSEAV--FIHEGYTHDAG-FDNDIALIKLNNKVVINSNITPICLP
                                                      GGKDAKPGQFPWQVLLNGKVDAFCGGSIINEKWVVTAAHCIEP-
                                                                                                              HISMTRTRAETLESNM------DYENSTEVEKILDNVTQPLNDFT-----
                                                                                                                                                                                                                             110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disease
                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glycoprotein; Vitamin K;
                                                                                                                                                                                                                                                                                                                103
57
90
95
112
127
134
150
150
197
207
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hydroxylation;
                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
184
218
218
123
218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mutation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
183
217
452
122
164
184
                                                                                                                                                                                                                                                                                                                103
101
110
121
138
148
148
163
197
207
2297
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  47
                                                                                                                                                                                                                                                                                     50827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72
                                                                                                                                                                                                                                          11.0%;
29.9%;
                                                                                                                                                                                                                                                                                     MW;
                                                                                                                                                                                                                             57;
                                                                                                                                                                                                                                                                               HYDROXYLATION (BY SIMILARITY
BY SIMILARITY.
(BCLONAC. . . ) (PO'N-LINKED (GLCNAC. . . ) (PO'N-LINKED (GLCNAC. . . ) (PO'N-LINKED (GLCNAC. . ) (PO'N-LINKED (GLCNAC. . . ) (PO'N-LINKED (GLCNAC. . ) (PO'N-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zymogen;
                                                                                                                                                                                                                                         Score 412; 1
                                                                                                                                                                                                                           Pred. No. 1.307; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EGF-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SERINE PROTEASE.
CLEAVAGE (BY FACTOR XIA)
CLEAVAGE (BY FACTOR XIA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FACTOR IXA (ACTIVE FORM) LIC
ACTIVATION PEPTIDE.
FACTOR IXA (ACTIVE FORM) HEA
EGF-LIKE 1, CALCIUM-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAMMA-CARBOXYGLUTAMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAMMA-CARBOXYGLUTAMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gamma-carboxyglutamic
Signal; EGF-like domai
                                                                                                                                                                                                                                                        DB 1;
                                                                                                                                                                                                                                          .3e-23
                                                                                                                                                                     SCEPAVPFPCGRVS-----
                                                                                                                                                                                                                             115;
                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACID
                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HEAVY CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BY SIMILARITY).
                                                                                                                                                                                                                                                         452;
                                                      DVKITIVAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acid;
                                                                                                                                                                                                                             96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                              -RVV
                                                                                                                                                                      4V-
                                                                                                                                                                                                                          Gaps
                                                      271
                                                                                    499
                                                                                                                                                                     177
                                                                                                                                                                                                                             16;
```

멍 Ωy В Qy

δÃ

B

AC AC

RESULT

```
BMP1_HUMAN
                                                                                                                   "Bane morphogenetic protein-1 and a mammalian tol "Bone morphogenetic protein-1 and a mammalian tol are encoded by alternatively spliced transcripts differentially expressed in some tissues.", J. Biol. Chem. 269:32572-32578(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BMP1_HUMAN STANDARD; PRT; 986 AA.
P13497; Q13292; Q99421; Q99423; Q9423; Q14874; Q9UL38; Q13872;
01-JAN-1990 (Rel. 13, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Bone morphogenetic protein 1 precursor (EC 3.4.24.19) (BMP-1)
(Procollagen C-proteinase) (PCP) (Mammalian tolloid protein) (mTld).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Primates; NCBI_TaxID=9606; [1]
                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORM BMP1-1).
MEDLINE-89072730; PubMed=3201241;
WOZNEY J.M., ROSEN V., Celeste A.J.,
Kriz R.W., Hewick R.M., Wang E.A.;
                                                                                                                                                                               MEDLINE=95096114; PubMed=7798260;
                                                                                                                                                                                          TISSUE=Placenta;
                                                                                                                                                                                                       PARTIAL SEQUENCE
                                                                                                                                                                                                                          banitz M., Heiser V., Boettcher U., La
banitz M., Heiser V., Boettcher U., La
"Three alternatively spliced variants
bone morphogenetic protein-1.";
J. Mol. Med. 76:141-146(1998).
                                                                                                                                                                                                                                                                                                                                     activities
                                                                                                                                                                                                                                                                                                                                                                                                                               protein-1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=96209868;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                          Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Li S.W.,
                                                                                                                                                                                                                                                                                       rissue=Placenta
                                                                                                                                                                                                                                                                                                                                               "Novel regulators of bone formation: molecular clones and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Prockop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                                                                                                           MEDLINE=98160316; PubMed=9500680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          329
                                                                       FUNCTION: CLEAVES THE C-TERMINAL PROPEPTIDES AND II. INDUCES CARTILAGE AND BONE FORMATION CATALYTIC ACTIVITY: Cleavage of the C-termina Ala-|-Asp in type I and II procollagens and a
             COFACTOR: BINDS 1 ZINC ION (BY ENZYME REGULATION: ACTIVITY IS ENDOPEPTIDASE ENHANCER PROTEIN, ALTERNATIVE PRODUCTS: 7 isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ANMLCAGLESGGKDSCRGDSGGALVFLDSETER-WFVGGTVSWGSMNCGEAGQYGVYTKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                      C-proteinase that processes procollagens to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SRYVNWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNMFCAGFHEGGKDSCQGDSGGPHV---TEVEGISFLTGIISWGE-ECAMKGKYGIYTKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DREYSNIFLKFGSGYVSGWGRVFNKGRSASILQYLKVPLVDRATCLRS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVT
                                                                                                                                                                                                                                                                                                                        242:1528-1534(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FROM N.A. (ISOFORM BMP1-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sieron A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                     Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      680
  PRODUCTS:
                                                                       TIVITY: Cleavage of the C-terminal type I and II procollagens and at
                                                                                                                                                                                                    FROM N.A. (ISOFORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=8643539;
                                                                                                                                                                                                                                                                                                  (ISOFORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fertala A.,
                                                                                                                                                                                                                                                                                                                                                                                                                     U.S.A.
  BMP1-6
                                                                                                                                                                                                                                                                                                                                                                                                                                          previously identified
              isoforms;
                                                                                                                                                                                                                                                                                                  BMP1-4;
                                                                                                                                                                                                                                                                                                                                                                                                                    93:5127-5130(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hoj ima
                                   SIMILARITY).
                                                                                                                                                                                                                                                               Landt
 BMP1-1,
BMP1-7;
                                                                                                                                                                                                       BMP1-3
                                                                                                                                                                                                                                                                                                  BMP1-5
                                                                                                                                                                                                                                                                                                                                                                     Mitsock L.M.,
                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Υ.,
                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                               0.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hominidae; Homo
                                                                                                                                                                                                       AND
                                                                                                                                                                                                                                                                                                  AND
                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arnold W.V.,
 are produced by
                                                                                                                                             tolloid homologue
pts which are
             BMP1-2,
                                                                                                                                                                                                                                                               Lauster
                                    THE
                                                                                                                                                                                                                                                                                                  BMP1-6).
                                                                                                                                                                                                       BMP1-7)
                                                                                                         Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibrillar
                                                                                                                                                                                                                                                                                                                                                                                                                                          as bone morphogenic
                                                                                                                                                                                                                                                   coding
                                                                      propeptide
Arg-|-Asp :
                                                                                                                                                                                                                                                                                                                                                                      Whitters
                                    PROCOLLAGEN C-
                                                                                                         PROCOLLAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
            BMP1-3 (shown
                                                                                                                                                                                                                                                               R.;
                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -TKFTIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                      collagens
                                                                                                                                                                                                                                                                                                                                                                      z
                                                                                                                                                                                                                                                   the
                                                                       1n
                                                                                                                                                                                                                                                                                                                                                                      .
.
                                                                                 at
                                                                                                                                                        (mTld)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          382
                                                                                                          ΙI
  EMBL; U50330; AAA93462.1; -
EMBL; W22488; AAA51833.1; -
EMBL; Y08723; CAA69973.1; -
EMBL; Y08724; CAA69975.1; -
EMBL; Y08725; CAA69975.1; -
EMBL; L35278; AAC41703.1; -
EMBL; L35279; AAC41710.1; -
PIL; A37278; A37278.
HSSP; P00736; 1APQ.
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                              DOMAIN
METAL
ACT_SITE
METAL
                                                                                                                                                                                                                                       DOMAIN
DOMAIN
                                                                                                                                                                                                                                                              PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                PROSITE; PS00010; ASX_HYDROXYL; 2.
PROSITE; PS00022; EGF_1; FALSE_NEG.
PROSITE; PS01186; EGF_2; 2.
PROSITE; PS01187; EGF_CA; 2.
                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF01400;
PRINTS; PR0048
                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                               Glycoprotein;
                                                                                                                                                                                                                                                                                                             Growth factor; Cytokine; Repeat; Bone;
Metalloprotease; EGF-like domain; Zinc;
                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00142; ZINC_PROTEASE; PROSITE; PS01180; CUB; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                               SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                      METAL
                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MIM; 112264;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS; M12.005;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE SPECIFICITY: OBIQUITOUS.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY
SIMILARITY: CONTAINS 2 EGF-LIKE DOMAINS.
SIMILARITY: CONTAINS 5 CUB DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                      S; PR00480; ASTACIN.

; SM00042; CUB; 5.

; SM00179; EGF_CA; 2.

; SM00235; ZnMC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PF00431;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF00008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HGNC:1067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; IPR000152;
; IPR000859;
; IPR000561;
; IPR001881;
; IPR000130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IPR001506; Astacin
 Zymogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CUB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Astacin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BMP1
 Asx_hydroxyl.
CUB_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2n_MTpeptdse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGF-like.
                                                                                                                                                                                                                                                                                                Alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         METALLOPROTEASE.
CUB 1.
CUB 2.
EGF-LIKE 1, CALC
 CUB 3.
EGF-LIKE
                                                                                                                                                                                                                                                             BONE MORPHOGENETIC
                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                     POTENTIAL.
Y SIMILARITY.
                                                                                            INC (CATALYTIC)
INC (CATALYTIC)
SIMILARITY.
SIMILARITY.
                                                                                                                                             SIMILARITY
                                                                                                                                                     (CATALYTIC)
                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                      Cartilage;
                                                                                                                                                                                                                                                                                                           Calcium;
                                                                                                                                                                                         CALCIUM-BINDING
                                                                                                                                                                                                                CALCIUM-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M12A
                                                                                                                   (BY
                                                                                                                                                     (BY
                                                                                                                                                                                                                                                              PROTEIN
                                                                                                                                                                                                                                                                                                          Signal;
                                                                                                                   SIMILARITY)
SIMILARITY)
                                                                                                                                                       SIMILARITY).
                                                                                                                                                                                                                                                                                                                      Hydrolase
```

[4]

(POTENTIAL) (POTENTIAL)

```
RESULT 18
ENTK_BOVIN
                                                                                               õ
                                                                                                                   밁
                                                                                                                                     ρy
                                                                                                                                                          В
                                                                                                                                                                         δÃ
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                                                                             밁
                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                 VARSPLIC
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARSPLIC
                                        958
                                                                                                                                                          805
                                                                                                                                                                             246
                                                                                                                                                                                                 749
                                                                                                                                                                                                                                        694
                                                                                                                                                                                                                                                                              643
                                                                                                                                                                                                                                                                                                                     591
                                                                                                344
                                                                                                                                       302
                                                                                                                                                                                                                   186
                                                                                                                                                                                                                                                          127
                                                                                                                                                                                                                                                                                                  71
                                                                                                                                                                                                                                                                                                                              11 CGSVATPLGPKWPEPVFGRLASPGFPGEYANDQERRWTLTAPPGYRLRLYFTHFDLELSH
                                                                                                                                                                                                                                                                                        LCEYDFVKLSSG----AKVLATLCGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKP
                                      FHSDDTI-TKK---
                                                                                                                                                                                                                  GOVETORSGELSSPEYPRPYPKLSSCTYSISLEEGFSVILDEVESFDVETHPETLCPYDF
                                                                                                                                                                                                                                      -KGFKAHFFS-DKDECSKDNG---GCQQDCVNTFGSYECQCRSGFVLHDNKHDCKEAGCD
                                                                                                                                                                                                                                                        FTGFEAFYAAEDIDECQVAPGEAPTCDHHCHNHLGGFYCSCRAGYVLHRNKRTC-SALCS
                                                                                                                                                                                                                                                                                                                     CGGFLTKLN-----
                                                          YSCEETFYTMKVNDGKYVCEADGF---WTSSKGEKSL 427
                                                                                                FTAVCQKD
                                                                                                                                      YPMAPPNGHVSPVQAKYILKDSFS--
                                                                                                                                                                          LKIQTDREEHGP----FCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCP
                                                                                                                                                                                               HKV-TSTSGTITSPNWPDKYPSKKECTWAISSTPGHRVKLTFME-MDIESQPE--CAYDH
                                                                                                                                                                                                                                                                            VCKYDEVEVRSGLTADSKLHGKFCGSEK-----PEVITSQYNNMRVEFKSDNTVSK-
                                                                             FEVEEETDCGYDYMELFDGYDSTAPRLGRYCGSGPPEEV--
                                                                                                                                                        LEVFDGRDAKAPVLGRFCGSKKPEPVLATGSRMFLRFYSDNSVQRKGFQ---ASHATECG
                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                824
748
934
986
                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      731
245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              623
703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   714
729
729
142
142
332
363
599
703
                                                                                                                   -GQVRADVKTKDLYSHAQFGDNNYPGGVDCEWVIVAEEGYGV--
                                                                                                                                                                                                                                                                                                                                                                                                  Ã,
                                                                                                                                                                                                                                                                                                                                                                                                986
748
934
111248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  986
823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              986
717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       986
622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      986
302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   742
742
142
332
363
599
730
                                                                                                                                                                                                                                                                                                                                                                    10
28
                                                                                               -GSWDRPMPACS-IVDCGPPDDLPSGRVEYITGPGVTTYKAVIQ
                                                                                                                                                                                                                                                                                                                  -GSITSPGWPKEYPPNKNCIWQLVAPTQYRISLQFDFFETEGND
                                       ----GFHLRYTSTKFQDTL 982
                                                                                                                                                                                                                                                                                                                                                                    . 98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65;
                                                                                                                                                                                                                                                                                                                                                                                                   ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILA
BY SIMILA
N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                    Score 411.5; DB Pred. No. 3.8e-23
                                                                                                                                                                                                                                                                                                                                                                                                       PQEGSYLDFWDTHRGDPKPRRRKSLKTFSLTPATFRGIWA
L (IN ISOFORM BMP1-7).
D -> N (IN ISOFORM BMP1-7).
D -> N (IN REF. 4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           VKLTFMEMDIESQPECAYDHLEVFDGRDAKAPVLGRFCG
-> VLEGAGDRHSHLSGLELLLCPHALVDTVPAPPSALHGD
THAHTHTHVHTHCPIAQETCRGPPLGASRLSPQGPGHLTLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MISSING (IN ISOFORM BMP1-6).
DKDECSKDNGGCQQDCVNTFGSYECQCRSGFVLHDNKHDCK
EAGCDHKVTSTSGTITSPNWPDKYPSKKECTWAISSTPGHR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (IN ISOFORM BMP1-4).
MISSING (IN ISOFORM BMP1-4).
AACGGFLTKLNGSITSPGWPKEYPPNKNCIWQLV ->
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DLQVGKPLLWDRHCFRLSTHGPEMLGTALRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DKDECSKDNGGCQQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISSING
                                                                                                                                                                                                                                                                                                                                                                                                 F89201913AC3CBEA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY
SIMILARITY
                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BMP1-6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BMP1-5).
(IN ISOFORM BMP1-5)
                                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                            158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ţ
                                                                                                                                    IFCETGYELLQGHLPLKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGELFGLLGHPPRRP
                                                                                                                                                                                                                                                                                                                                                          Indels 105;
                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                             YSAGDSV - -
                                                                                                                                                                                                                                                                                                                                                                             986;
                                                                                                                   -ELVFQT
                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (IN
                                                                                                                                                                                                                                    748
                                                                                                                                                                                                                                                                                                                  642
                                                                                               393
                                                                                                                                     343
                                                                                                                                                                          301
                                                                                                                                                                                               80,
                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                            693
                                                                                                                                                                                                                                                                                                                                      70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      309
                                                                                                                                                                                                                                                                                                                                                          22;
```

```
P98072;
01-FEB-1996
01-FEB-1996
15-JUN-2002
                                                                                                                                                                                                                                                                                           use by modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUN-2002 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Enteropeptidase precursor (EC 3.4.21.9) (Enterokinase).
PRESS OR ENTK.
                                                                                                                                                                                                                                                                                                                                                                                         This
                                                                                                                                                                                                                                                                                                                                                                                                                          Trypsinogen.

-ISUBUNIT: HETERODIMER OF A CATALYTIC (LIGHT) CHAIN AND A MULTIDOMAIN (HEAVY) CHAIN LINKED BY A DISULFIDE BOND.
-ISUBCELLULAR LOCATION: Type II membrane protein (Probable).
-I- TISSUE SPECIFICITY: INTESTINAL BRUSH BORDER.
-I- PTM: THE CHAINS ARE DERIVED FROM A SINGLE PRECURSOR THAT IS CLEAVED BY A TRYPSIN-LIKE PROTEASE.
-I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
-I- SIMILARITY: CONTAINS 2 LDL-RECEPTOR CLASS A DOMAINS.
-I- SIMILARITY: CONTAINS 2 CUB DOMAINS.
-I- SIMILARITY: CONTAINS 1 SEA DOMAIN.
-I- SIMILARITY: CONTAINS 1 SEA DOMAIN.
-I- SIMILARITY: CONTAINS 1 SECR DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 801-1035 FROM N.A., AND PART MEDITIVE-94043122; PubMed-8226855; Lavallie E.R., Rehemtulla A., Racie L.A. "Ferenz C., Grant K.L., Light A., McCoy J "Cloning and functional expression of a subunit of bovine enterokinase."; J., Biol. Chem. 268:23311-23317(1993).
                                                                                                                       EMBL; U09859; AAB40026.1;
EMBL; L19663; AAA16035.1;
PIR; A61436; A61436.
HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                           or send
                                                                                                                                                                                                                                                                     entities
                                                                                                                                                                                                                                                                                                                                         the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 1 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   enterokinase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Intestine;
MEDLINE=92189715;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 801-827.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kitamoto Y., Yuan X., Wu Q., McCourt D.W., Sadler J.E., "Enterokinase, the initiator of intestinal digestion, i protease composed of a distinctive assortment of domain proc. Natl. Acad. Sci. U.S.A. 91:7588-7592(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-94329561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine).
Eukaryota; Metazoa;
                         InterPro; IPR000859;
InterPro; IPR001314;
InterPro; IPR002172;
                                                                                                     MEROPS;
                                                                                                                                                                                                                                                                                                                                                                     between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Light A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-Duodenum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENTK_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROCEIN CHEM. 10:475-480(1991).

PROCEIN CHEM. 10:475-480(1991).

FUNCTION: RESPONSIBLE FOR INITIATING ACTIVATION OF PANCREATIC PROPEDLYTIC PROCENZYMES (TRYPSIN, CHYMOTRYPSIN AND CARBOXYPEPTIDASE A). IT CATALYZES THE CONVERSION OF TRYPSINOGEN TO TRYPSIN WHICH IN TURN ACTIVATES OTHER PROENZYMES INCLUDING CHYMOTRYPSINOGEN, PROCARBOXYPEPTIDASES, AND PROELASTASES.

CATALYTIC ACTIVITY: Selective cleavage of 6-Lys-|-Ile-7 bond in
                                                                                                                                                                                                                                                                                                                                    s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino-terminal
                                                                                                                                                                                                                                           non-profit institutions as long as its content d and this statement is not removed. Usage by an s requires a license agreement (See http://www.isb-an email to license@isb-sib.ch).
                                                                                                  S01.156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Janska
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33,
41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=1799406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=8052624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence of the catalytic subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AND PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cetartiodactyla;
                         Chymotrypsin.
LDL_recept_A.
                                                                         CUB_domain
MAM_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Racie L.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ruminantia; Pecora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Diblasio E.A.,
                                                                                                                                                                                                                                                                  http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      encoding the catalytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is
                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mosaic
                                                                                                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SI
                                                                                                                                                                                                                                                                                           in no way
```

38;

```
InterPro; IPRO00082; SEA_domain.
InterPro; IPRO01254; Ser_proteas
InterPro; IPRO01254; Ser_proteas
InterPro; IPRO01254; Ser_proteas
InterPro; IPRO01254; Ser_proteas
InterPro; IPRO01190; Ser_rceept_a; 2.
Pfam; PF00089; LTPSIN; 1.
Pfam; PF00431; CUB; 2.
Pfam; PF001390; SEA; 1.
Pfam; PF001390; SEA; 1.
Pfam; PF001390; SEA; 1.
PFAMRT; SM00102; CHYMOTRYPSIN.
SMART; SM00102; LDLa; 2.
SMART; SM001037; MAM; 1.
SMART; SM001037; MAM; 1.
SMART; SM00200; SEA; 1.
SMART; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS50068; L
PROSITE; PS50060; M
PROSITE; PS50024; S
PROSITE; PS50024; S
PROSITE; PS50247; S
PROSITE; PS50240; S
PROSITE; PS50240; S
PROSITE; PS50240; S
PROSITE; PS50134; 7
PROSITE; PS50135; 7]
Signal-anchor; Gly(Serine protease; Z)
CHAIN 1
   CARBOHYD
CARBOHYD
CARBOHYD
                                                     DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
ACT_SITE
LIPID
DISULFID
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR000082; SEA_domain.
IPR001254; Ser_protease_Try.
IPR001190; Srcr_receptor.
     35; TRYPSIN_SER; Glycoprotein; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; LDLRA_1; 2.
; LDLRA_2; 2.
; MAM_1; 1.
; MAM_2; 1.
; SEA; 1.
; SECR_1; FALSE_NEG.
; SRCR_2; 1.
; TRYPSIN_DOW; 1.
; TRYPSIN_HIS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zymogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           800
1035
18
47
     Transmembrane;
SECR.

SERIME PROTEASE
CHARGE RELAY SY
MYRITARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CUB
MAM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Myristate; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANSMEMBRANE: Repeat; Alternative sp.
NON-CARALYTIC CHAIN (HEAVY CHAIN).
CATALYTIC CHAIN (LIGHT CHAIN).
CYTOPLASMIC (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
SCIGNAL-ANCHOR (TYPE-II MEMBRANE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
SEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROTEASE
                    (GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Y SYSTEM
Y SYSTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASS A 1.
                                                                                                                                                                                                                                                                                                                                                SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BY
(BY)
   (POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                splicing
                                                    δÃ
                                                                                       D
                                                                                                                   γQ
                                                                                                                                                              B
                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
Best I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
VARSPLIC
CONFLICT
SEQUENCE
                    1023
                                                                                                                                                                913
                                                                                                                                                                                                                                                                          494
                                                                                                                                                                                                                                                                                                             795
                                                                                                                                                                                                                                                                                                                                             444
                                                                                                                                                                                                                                                                                                                                                                                                                   418
                                                                                                                                                                                                                                                                                                                                                                                                                                                       691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y Match
: Local Similarity
thes 185; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       46
                    VPRFTEWIQSFL
                                                    VINYIPWIENII
                                                                                       -dT
                                                                                                                                                                                  LPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGS
                                                                                                                                                                                                                                      AVLGLHMAS-NLTSPQIETRLIDQIVINPHY
                                                                                                                                                                                                                                                                                                                            VYTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RWTLTAPPGYRLRLYFTHFDLELSHLCEYDFVKLSSGAKVLATLCGQESTDTERA----
                                                                                                                                                                                                                                                                                                           QEVSPKIVGGSDSREGAWPWVVALYFDDQQVCGASLVSRDWLVSAAHCVYGRNMEPSKWK
                                                                                                                                                                                                                                                                                                                                                                                  G
                                                                                                                                                                                                                                                                                                                                                                                                                  WTSSKGEKSLPVCE----PVCGLSARTTGG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVCQ-----KDGSWDRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TFTSINFPNSYPNQAFCIWNLNAQKGKNIQLHFQE-FDLENIADVVEIRDGEGDDSLFLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KVSFYGFKNQILSDIALDDISLTYGICNVSVYPEPTLVPTPPPELPTDCGGPHDLWEPNT
                                                                                                                                                                                                                                                     -ALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     -AHCVRLFNGTTDS--SGLVQF-----RIQSIWHVACAEN-WTTQISDD--VCQLLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IQTDREEHGPFCGKTLPHRIETKSNTVTITFVTDESGDHTGWKIHYTS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -LSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDVETHPETLCPYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -EDIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NPGIIRIFS--NQVTATFLIQ-SDESDYIGFKVTYTAFNSKELNNYEKINCNFEDGFCFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -PGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RWI IRVNQGLS IQLNFDYFN-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTPEQACLSFWYYMYGENVYKLSINISSDQNMEKTIFQKEGNYGQNWNYGQVTLNETVEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IQDLNDDNEWERTQGSTFPPSTGPTFDHTFGNE-SGFYISTPTGPGGRRERVGLLTLPLD
                                                                                                                                                              EENQVFPPGRICSIAGWGALIYQGSTADVLQEADVPLLSNEKC---
                                                                                                                                                                                                                                                                                                                                                                                GNSSYPTFSTGGGPYVNLNTAPNGSLILTPSQQCLEDSLILLQCNYKSCGKKLVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --PGPV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               741
762
864
903
965
166
808
1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YVLHRNKRTCSALCS
                    1034
                                                     683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              741
762
864
903
965
192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -CQVAPGEAPTCDHHCHNHLGGFYCSCRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NDVFSTTNRMTVLFITDNMLAKQGFKANFTTGYGLGIPEPCK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EDNFQ--CKDG----ECIPLVN---LCDGFPHCKDGSDE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 408.5;
Pred. No. 6.9e
ll; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
MISSING (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LINKED (GLCNAC. .) (POTE:
LINKED (GLCNAC. .) (POTE:
LINKED (GLCNAC. .) (POTE:
LINKED (GLCNAC. .) (POTE:
LINKED (GLCNAC. .) (POTE:
LSING (IN SHORT ISOFORM).
-> Y (IN REF. 3).
E207970B08296E13 CRC64;
                                                                                                                                                                                                                                   - NKRRKNNDIAMMHLEMKVNYTDYIQPIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -TYYADVLNIYEGMGSSKILRASLWSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1
6.9e-23;
$ 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GOVFTQRSGE-
                                                                                                                                                              -QQQMPEYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1035;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -TAQPCPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                           1022
                                                                                                                          671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        431
                                                                                                                                                                965
                                                                                                                                                                                                 611
                                                                                                                                                                                                                                      912
                                                                                                                                                                                                                                                                          552
                                                                                                                                                                                                                                                                                                             854
                                                                                                                                                                                                                                                                                                                                             493
                                                                                                                                                                                                                                                                                                                                                                                794
                                                                                                                                                                                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                                                                                                                                                                                                                                                                     737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
```

DR CREATE TO THE TOTAL CORRESPONDENT TO THE TOTAL TO THE TOTAL THE TOTAL THE TOTAL CORRESPONDENT TO TH

mast

cell

```
RESULT
FA9_HUM
           RT RAPRATER RAPARAMENTAR RAPARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FA9_HUMA
FA9_HUMA
P00740;
21-JUL-1
01-JAN-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Findeli A., Tolstoshev P., Lecocq J.P.;
"Isolation of a human anti-haemophilic factor unique 52-base synthetic oligonucleotide probe acid sequence of bovine factor IX.";
Nucleic Acids Res. 11:2325-2325.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor B).";
Biochemistry
[2]
                              Suehiro K.
Ogata K.,
                                                                                                                                                                                                                                                                                                                                                              Science [7]
                                                                                                                                                                                                                                                                                                                                                                                 Stoflet E.S., Koeberl D.D., Sarkar G., "Genomic amplification with transcript Science 239:491-494(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 36-326 FROM N.A.
TISSUB-Liver;
MEDLINE-84300526; PubMed-6089357;
MEDLINE-84300526; PubMed-6089357;
Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., Kaul R., Jagadeeswaran P., Lavelle D.E., L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=84236100: PubMed=6329734;
Anson D.S., Choo K.H., Rees D.J.G.,
Huddleston J.A., Brownlee G.G.;
"The gene structure of human anti-he
EMBO J. 3:1053-1060(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=84236100;
Anson of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-86000558; PubMed-2994716;
Yoshitake S., Schach B.G., Foster
                                                                                                                                        Wiesel M.L., Grunebaum L., Cazenave J.-P.;
"A deletion located in the 3' non translated gene responsible for mild haemophilia B.";
Thromb. Haemost. 70:370-371(1993).
                                                                                                                                                                                                                                                                     MEDLINE=94054330; PubMed=8236150; de la Salle C., Charmantier J.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 290-359 FROM N.A. MEDLINE-88127096; PubMed-3340835;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Evidence for a prevalent dimorphism human coagulation factor IX."; Proc. Natl. Acad. Sci. U.S.A. 82:2847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JAN-1988
15-JUN-2002
                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 444-461 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  McGraw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-85190593;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Nucleotide sequence factor B).";
                                                                                   SEQUENCE OF 47-461
MEDLINE-90078229; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J.B., Stafford D.W.
                                                       .
.
                              ., Kawabata
Kamiya T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24:3736-3750(1985)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         À
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01,
41,
41,
                                                                                   1 (VARIANT NAGOYA).
Pubmed=2592373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=3857619;
s L.M., Noyes C.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                              S.-I., Miyata T., 'Saito H., Niho Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence uprecursor (EC 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
Nagoya.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anti-haemophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82:2847-2851(1985)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  on update)
3.4.21.22)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Giannelli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C., Davie
human fac
     Substitution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lundblad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in the
                                                       Takeya
                           Takeya H.,
Iwanaga S.
                                                                                                                                                                                                                                                                                                                                                                                                          sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sommer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   regional assignment.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mohandas T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vie E.W.,
factor I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                activation
                                                                                                                                                                                                                                                                       Schwartz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            e deduced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F.
                                                                                                                                                                                                                                                                                                                                                                                                                                တ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor IX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Christmas factor).
                                                                                                                                                                                                                                                                                                                                                                                                             .s.;
ng.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IX cDNA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gould
     ō,
                                                       Takamatsu
                                                                                                                                                                                                                     _{\text{of}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kohli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Roberts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kurachi K.;
x (antihemophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi
     arginine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            clone
d from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Warren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۷.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            using a
the amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of
E
                                                                                                                                                                                                                     X
     bу
```

```
tryptophan chymase.";
J. Biol. Ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mcmullen B.A., Fujikawa K., Kisiel W.;
"The occurrence of beta-hydroxyaspartic
K-dependent blood coagulation zymogens."
Richam Bicham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=84185715; PubMed=6425296; Morita T., Isaacs B.S., Esmon C.T., Johnson A.E.; Morita T., Isaacs B.S., Esmon C.T., Johnson T. contain "Derivatives of blood coagulation factor IX contain Ca2+-binding site that lacks gamma-carboxyglutamic J. Biol. Chem. 259:5698-5704(1984).
          MEDLINE=20575397; PubMed=1113375;
Arruda V.R., Hagstrom J.N., Deitt
Camire R.M., Chu K., Fields P.A.,
Larson P.J., High K.A.;
"Posttranslational modifications
human factor IX.";
                                                                                                                                                                                                                                                                                                                                                                        (Xyl2-Glc) O-glycosidically linked to epidermal growth factor-like domain of protein Z. ";
J. Biol. Chem. 264:20320-20325(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                          Nishimura H., Kawabata S., Kisiel W., Hase S., Shimonishi Y., Iwanaga S.; "Identification of a disaccharide (Xyl-Glc) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bentley A.K., Rees D.J.G., Rizza "Defective propeptide processing by mutation of arginine to glutam tell 45:343-348(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochem.
                                                                                                            PHOSPHORYLATION OF SER-114.
Harris R.J., Papac D.I., Truong L., Sn
"Partial phosphorylation of serine-68
(In) Abstracts of XIth international c
structure analysis, pp.50-50, Annecy (10)
                                                                                                                                                                                        Nishimura H., Takao T., Hase S., Shimonishi "Human factor IX has a tetrasaccharide O-gly serine 61 through the fucose residue.";
J. Biol. Chem. 267:17520-17525(1992).
                                                                                                                                                                                                                                          STRUCTURE OF CARBOHYDRATE ON SER-107. MEDLINE=92388094; PubMed=1517205;
                                                                                                                                                                                                                                                                                 Adv
                                                                                                                                                                                                                                                                                                                                  MEDLINE=91344709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90062160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-86189947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Morita
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CALCIUM-BINDING DATA.
MEDLINE=84185715; Pub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       di Scipio R.G., Kurachi K., Davie E.W.;
"Activation of human factor IX (Christmas
J. Clin. Invest. 61:1528-1538(1978).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROCESSING, ACTIVE SITE,
                                                                                       POST-TRANSLATIONAL
                                                                                                                                                                                                                                                                                                          "A new
                                                                                                                                                                                                                                                                                                                        Iwanaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=78194509;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HYDROXYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol.
factor IX.";
97:130-138(2001)
                                                                                                                                                                                                                                                                                                EGF-like
                                                                                                                                                                                                                                                                                        URE OF CARBOHYDRATE ON SER-99.
E=91344709; PubMed=2129367;
a S., Nishimura H., Kawabata S., Kisiel W., Hase S., I
a S., Nishimura H., Kawabata S., Kisiel W., Hase S., I
a S., Nishimura H., Kawabata S., Kisiel W., Hase S., I
a S., Nishimura H., Kawabata S., Kisiel W., Hase S., I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CLEAVAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Τ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biophys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OF
F
                                                                                                                                                                                                                                                                                  Med.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isaacs B.S., Esmon C.T.,
nem. 260:2583-2583(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYDRATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OF ASP-110
                                                                                                                                                                                                                                                                                 e domain
Biol. 2
                                             AL MODIFICATIONS.; PubMed-11133752;
strom J.N., Deitch
K., Fields P.A., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=3009023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed-2511201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=659613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Res. Commun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=6688526;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    activation by alpha-chymotrypsin and
                                                                                                                                                                                                                                                                                 n of clotting factors 281:121-131(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AND CARBOHYDRATE-LINKAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rizza C., Brownlee G.G.;
essing of blood clotting factor
glutamine at position -4.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SER-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     115:8-14(1983).
                        of
                                                Herzog
                                                             J
                                                                                                                                                                                                                                                                                                                                                                                                 Q.
                        recombinant
                                                                                                                                                      Smith K.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Johnson
                                                                                                             conference (1996).
                                                                                                                                                                                                                                                                                                                                                                                                                D
                                                                                                                                        in EGF-1
                                                                                                                                                                                                                  nishi Y., Iwanaga
O-glycosidically
                                                             Heiman-Patterson
                                                                                                                                                                                                                                                                                                                                                                                                   human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acid
                                                                                                                                                                                                                                                                                                                                                                                                                serine
                                                R.₩.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A.E.;
contain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A.E.;
                                                                                                                                                                                                                                                                                                                                                                                                   factors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'n
                                                                                                                           e on methods in p
                                                 Couto
                                                                                                                                                                                                                                                                                                                                                                                                                residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ikenaka
                      myotube-synthesized
                                                                                                                                                                                                                                                                                                                                                                                                                           a trisaccharide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vitamin
                                                L.B.,
                                                                                                                                                                                                                                                                                                                                                                                                   VII and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             high
id.";
                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                   S.;
linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rat
                                                            4
                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                          , Ikenaka T.
ue in the
protein Z.";
                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         affinity
                                                                                                                                                                                                                                                                                                                                                                                                   X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  caused
                                                                                                                                                                                                                                                                                                                                                                                                             first
                                                                                                                            protein
                                                                                                                                          IX. ";
                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                    T.
```

```
δÃ
                                                         밁
                                                                                    QΥ
                                                                                                                     В
                                                                                                                                               δÃ
                                                                                                                                                                                                                                          RRRRRR
                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                            Query Match
Best Local 9
                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dependent
J. Biol. C
[22]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Smith H., Hiskey R.G., Pedersen L.G.;
"Refinement of the NMR solution structure of the gamma-carboxyglutamic acid domain of coagulation factor IX molecular dynamics simulation with initial Ca2+ positions by a genetic algorithm.";
biochemistry 36:2132-2138(1997).
                                                                                                                                                                                                                                                                                                                                                                       Baron M., Norman D.G., Harvey T.S., Handford P.A., Mayl Tse A.G.D., Brownlee G.G., Campbell I.D.C.; "The three-dimensional structure of the first EGF-like human factor IX: comparison with EGF and TGF-alpha."; Protein Sci. 1:81-90(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91308127; PubMed=1854745;
Huang L.H., Cheng H., Pardi A., Tam J.P., Sweeney W.V.;
"Sequence-specific 1H NMR assignments, secondary structure,
location of the calcium binding site in the first epidermal
factor like domain of blood coagulation factor IX.";
Biochemistry 30:7402-7409(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Freedman S.J., Furie B.C., Furie B., Baleja J.D.;

Structure of the metal-free gamma-carboxyglutamic
binding region of factor IX by two-dimensional NMR
J. Biol. Chem. 270:7980-7987(1995).
                                                                                                                                                                                                                                       MOLECULAR PATHOLOGY OF HEMOPHILIA
                                                                                                                                                                                                                                                                             Rao 2., Handford P., Mayhew M., Knott V., Brownlee G
"The structure of a Ca(2+)-binding epidermal growth
domain: its role in protein-protein interactions.";
                                                                                                                                                                                                                                                                                                                                                                                                                                               STRUCTURE BY NMR OF 92-130 MEDLINE=93284090; PubMed=1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRUCTURE BY NMR OF 91-133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=97199336; PubMed=9047312; Li L., Darden T.A., Freedman S.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRUCTURE BY NMR OF 47-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Furie B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Freedman S.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=96279169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF 47-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biochemistry 34:12126-12137(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Freedman S.J., Furie B.C., Furie B., "Structure of the calcium ion-bound domain of factor IX.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=96032604; PubMed=7547952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=95229607; PubMed=7713897;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       [19]
STRUCTURE BY NMR OF 47-93.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Identification
                                                                                                                                                                                                                                                                                                                             MEDLINE=95330802; PubMed=7606779;
                             472
 256
                                                          196
                                                                                                                                                                                                                                                                                                                                           -RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS)
                                                         FPDVDYVNSTEAETILDNITQSTQSFNDFTRVVGGEDAKPGQFPWQVVLNGKVDAFCGGS
                                                                                                                  CEQ--FCKNSADNKVVCSCTEGYRLAENQKS---CEPAVPFPCGRVSVSQTSKLTRAEAV 195
                                                                                                                                               CEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPV----CG-LSARTTG---
IVNEKWIVTAAHCVETGVKITVVAGEHNIEETEHTEQKRN---
                             LLYDNWVLTAAHAV----
                                                                                                                                                                               107;
                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             blood
                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NMR OF 47-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of the phospholipid binding site coagulation protein factor IX."; 271:16227-16236(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Blostein
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=1304885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=8663165;
                                                                                                                                                                                        10.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M.D.,
                                                                                                                                                                              50;
                                                                                                                                                                                        Score 405;
Pred. No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baleja J.D., Jacobs
                                                                                                                                                                            Mismatches
                                                                      -GRIYGGQKAKPGDFPWQVLILGGTTA--AGA
                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Furie
                                                                                                                                                                                                                                                                                                                                                                                                                                Handford P.A., Mayhew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baleja J.D.;
gamma-carboxyglutamic
                                                                                                                                                                                                                                                                                                                                           OF.
                          -YEQKHDASALDIRMGTLKRLSPHYTQ
                                                                                                                                                                                            .5e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W
                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                            92-130
                                                                                                                                                                                                                                                                                                              Brownlee G.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .0.,
                                                                                                                                                                            92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Furie
                                                                                                                                                                                                        Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3
                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 spectroscopy.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acid-rich membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                factor-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Furie
                                                                                                                                                                                                                                                                                                                                                                                                     module
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IX using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vitamin
                                                                                                                                                                                                                                                                                                              Stuart D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baleja
                                                                                                                                                                            102;
                                                                                                                                                                                                                                                                                                                                                                                                                                 .
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          determined
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           acid-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ч
                                                                                                                                                                            Gaps
                                                                                    471
                                                                                                                                               442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ü
                                                       255
                                                                                                                                                                            16;
```

```
RESULT
THRB_MC
   ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P19221;
01-NOV-1990
01-NOV-1990
15-JUN-2002
This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Extended Buropean Bioinformatics Institute. There are no restruce by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                          amplification and sequence analysis of the B chain of thrombin from nine different species.";

Proc. Natl. Acad. Sci. U.S.A. 89:2779-2783(1992).
-!- FUNCTION: THROMBIN, WHICH CLEAVES BONDS AFTER ARG & LYS, CONVERT FIBRINGGEN TO FIBRIN AND ACTIVATES FACTORS V, VII, VIII, XIII, AND, IN COMPLEX WITH THROMBOMODULIN, PROTEIN C.
-!- CATALYTIC ACTIVITY: Preferential Cleavage: Arg-!-Gly: activates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Friezner Degen S.J., Schaffer L.A., Jamison C.S., Grant S.G., Fitzgibbon J.J., Pai J.-A., Chapman V.M., Elliott R.W., "Characterization of the CDNA coding for mouse prothrombin and localization of the gene on mouse chromosome 2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Prothrombin F2 OR CF2.
                                                                                                                                                                                                                                                                   ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Banfield D.K., Macgillivray R.T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=92212913; PubMed=1557383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=91025551; PubMed=2222810;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=C57BL/6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THRB_MOUSE
                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Partial characterization of vertebrate prothrombin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                               BY FACTOR XA.
- SIMILARITY: B:
- SIMILARITY: C:
                                                                                                                                                                                                                                                                                           fibrinogen to fibrin and releases fibrinopeptide A and B.

PTM: THE GAMMA-CARBOXYGLUTAMYL RESIDUES, WHICH BIND CALCIUM IONS,
RESULT FROM THE CARBOXYLATION OF GLUTAMYL RESIDUES BY A MICROSOMAL
ENZYME, THE VITAMIN K-DEPENDENT CARBOXYLASE. THE MODIFIED RESIDUES
ARE NECESSARY FOR THE CA-DEPENDENT INTERACTION WITH A NEGATIVELY
CHARGED PHOSPHOLIPID SURFACE, WHICH IS ESSENTIAL FOR THE CONVERSION
                                                                                                                                                                                                                                             OF PROTHROMBIN TO THROMBIN.

MISCELLANEOUS: PROTHROMBIN IS ACTIVATED ON THE SURFACE OF A PHOSPHOLIPID MEMBRANE THAT BINDS THE AMINO END OF PROTHROMBIN PHOSPHOLIPID MEMBRANE THAT BINDS THE AMINO END OF PROTHROMBIN
                                                                                                                               MISCELLANEOUS: THROMBIN (FRAGMENT (FRAGMENT 1) OF
                                                                                                                                                                                THE ACTIVATION PEPTIDE & CLEAVES THE HEAVY CHAINS. THE ACTIVATION PROCESS V ITSELF HAS TO BE ACTIVATED BY THE I
                                                                                                                                                                  THROMBIN
                                                                                                                                                                                                                                FACTORS VA & XA IN CA-DEPENDENT INTERACTIONS; FACTOR XA REMOVES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AWSEAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDSGGALVFLDSETE-RWEVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GWGRVFHKGRSALVLQYLRVPLVDRATCLRS-----TKFTIYNNMFCAGFHEGGRDSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GWG-LTQRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -YNAAI----NKYNH-----DIALLELDEPLVLNSYVTPICIADKEYTNIFLKFGSGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 16, (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              384-618 FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9:487-498(1990).
                                                                               BELONGS TO
CONTAINS 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -TEVEGTSFLTGIISWGE-ECAMKGKYGIYTKVSRYVNWIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence up
Last annotation
(EC 3.4.21.5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N.A.
                                                                               PEPTIDASE
KRINGLE DO
                                                                                                                                CAN ITSELF CLEAVE THE PROTHROMBIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                   DOMAINS
                                                                                                FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                                                               REMAINING PART INTO LIGHT
STARTS SLOWLY BECAUSE FACT
                                                                                                  S1
                                                                                                                                THE AMINO TERMINAL PRIOR TO ITS ACTIVATION
                                                                                                                                                                                SLOWLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of thro
                                                                                                                                                                                  AMOUNTS
                            EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         680
                                               a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                               CONVERTS
XIII,
                                                                                                                                                                                  FACTOR
OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     571
```

restrictions

no on way its

:

29;

```
Pfam; pF00051; kringle; 2.

Pfam; pF00089; trypsin; 1.

Pfam; pF000594; gla; 1.

Pfam; pF00722; CrymOTRYPSIN.

PRINTS; PR00001; GLABLOOD.

PRINTS; PR00001; GLABLOOD.

PRINTS; PR00018; KRINGLE; 2.

DR PROSTTS; SM000395; Kringle; 2.

DR SMART; SM000395; GLA; 1.

DR PROSTTS; PS00011; GLU_CARBOXYLATION; 1.

DR PROSTTE; PS000021; KRINGLE=1; 2.

DR PROSTTE; PS000021; KRINGLE=1; 2.

DR PROSTTE; PS000021; KRINGLE=1; 1.

DR PROSTTE; PS000135; TRYPSIN_HIS; 1.

PROSTTE; PS00135; TRYPSIN_HIS; 1.

DR PROSTTE; PS00135; TRYPSIN_HIS; 1.

DR PROSTTE; PS000135; TRYPSIN_HIS; 1.

DR PROSTER; PS000135; TRYPSIN_HIS; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP: P00734; 1B7X.
MEROPS; S01.217; -.
MGD; MGI:88380; F2.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR002383; GLA_blood.
InterPro; IPR000001; Kringle.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR000294; VitK_dep_GLA.
         MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
MOD_RES
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PEPTIDE
PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     modified
entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                              SITE
ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hydrolase;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M81394; AAA40435.1; -. PIR; A35827; A35827.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  X52308; CAA36548.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d and this statement is not remove s requires a license agreement (S an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     requires
          544444

54444

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

5454

545
CLEAVAGE (BY THROMBIN).
CLEAVAGE (BY THROMBIN).
CLEAVAGE (BY FACTOR XA).
CLEAVAGE (BY FACTOR XA).
CLEAVAGE (BY FACTOR XA).
CLEAVAGE (BY FACTOR XA).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTIVATION PEPTIDE (FI
ACTIVATION PEPTIDE (FI
THROMBIN LIGHT CHAIN (
THROMBIN HEAVY CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FRAGMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FRAGMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      λą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2).
                                                                                                                                                                                                                                                                     RESULT 21
HPT_CANFA
       RAN OCC
                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                           HPT_CANFA
P19006;
01-NOV-1990
01-DEC-1992
01-OCT-1996
Haptoglobin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9615;
                                                                                                                            Canis familiaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
     Kumazaki T.,
                                                                                                                                                  Ŧ
                     MEDLINE=93054403; PubMed=1429498;
                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         131
                                                                                                                                                                                                                                                                                                                                           582
                                                                                                                                                                                                                                                                                                                                                                                                               528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EAFYAAEDIDECQVAPGEAPTCDH-------HCHNHLGGFYCSCRAGYVLHRN 176
                                                                                                                                                                                                                                                                                                                                         MGIVSWGE-GCDRKGKYGFYTHVFRLKRWIQKVIDQF
                                                                                                                                                                                                                                                                                                                                                                          GGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                                                                                                                                                                                             YEQKHDASALDIRMGTLKRLSPHYTQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----GGRIYGGQKAKPGDFPWQVLILGGT----TAAGALLYDNWVLTAAHAV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EA-----VGEENYDVDESIAGRTTDAEFHTFFNEKTFGLGEADCGLRPLFEKKSLKDTTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ETFYTMKVNDGKYVCE-----ADGFWTSSKGEKSLPVCEPVCGL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTAVC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NPDSSTTGPWCYTTDPTVRREECSVPVCG-----QEGRTTVVMTPRSGGSKDN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KRTCSALCSGQVFTQRSG---ELSSPEYPRPYPKLSSCTYSISLEEGFSVILDFVESFDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EAFEALESPODTDVFWAKYTVCDSVRKPRETFMDCLEGRCAMDLGVNYL------
                                                                                                                                                                                                                                                                                                                                                                                                             VERPVCKAS-----TRIRITDNMFCAGFKVNDTKRGDACEGDSGGPFVMKSPFNNRWYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PVPFSDYIHPVCLPDKQTVTSLLRAGYKGRVTGWGNLRETWTTNINEIQPSVLQVVNLPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KVVINSNITPICLPRKE-AESFMRTDDIGTASGWGLTQRGFLAR-----NLMYVDIPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KELLDSYIDGRIVEGWDAEKGIAPWQVMLFRKSPQELLCGASLISDRWVLTAAHCILYPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NSLPAKTLSKYQDFD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ETHPETLCPYDFLKIQTDREEH--GPFCGKTLPHRIETKSNTVTITEVTDESGDHTGWKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WDKNFTENDLLVRIG--KHSRTRYERNVEKISMLEKIYVHPRYNWRENLDRDIALLKLKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          al Similarity 25.0
163; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            561
122
144
413
553
618
                                                                                                                                                             (Rel.) (Rel.) (Rel.) (Rel.) alpha
       Urushibara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QKDGSWDRPMPACSIVD--CGPPDDLPSGRVEYITG-PGVTTYKAVIQYSCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GTVNVTHTGIQCQLWRSRYPHK-PEINSTTHPGA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                     STANDARD;
                                                                                       s (Dog).
zoa; Chordata; C
ria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 591
122
144
413
553
70268
                                                                                                                                                               16,
24,
34,
and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LSPPLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10.8%;
                                                                                                                                                               Last
Last
beta
                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEVKLVENFCRNPDWDEEGAWCYVAGQPGDFEY-CNLNY-CE
     z
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ¥.
                                                                                                                                                               : sequence up
: annotation
chains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
B89F719AAFD601E0 CF
       Ishii S.-I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 405; DB 1;
Pred. No. 6.5e-23
                                                                                       Craniata; Vertebrata;
; Fissipedia; Canidae;
                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -AWSEAVFIHEGYTHDAGFDNDIALIKLNN
                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                     329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -QCLTERG-RLYQGNLAVTTLGSPCLPW
                                                                                                                                                                               update)
                                                                                                                                                                                                                                                     Ą
                                                                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                                          686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                           Euteleostomi;
Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DLKENECR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SARTT --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                            649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 159
```

```
В
                                                      Qγ
                                                                               Ъ
                                                                                                   δÃ
                                                                                                                            В
                                                                                                                                               δÃ
                                                                                                                                                                        밁
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; JX0223; JX0224.
PIR; JX0224; JX0224.
PIR; B26503; B26503.
HSSB; P00734; 1B7X.
                                                                                                                                                                                                                                            ery Match
                                                                                                                                                                                                                                                                DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interpro; IPR001314; Chymotryps
Interpro; IPR001254; Ser protee
Pfam; PF00089; trypsin; 1
PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rabbit, and dog haptoglobin beta-chains.";
Comp. Biochem. Physiol. 558:453-459(1976).
1- FUNCTION: HAPTOGLOBIN COMBINES WITH FREE PLASMA
PREVENTING LOSS OF IRON THROUGH THE KIDNEYS AND
KIDNEYS FROM DAMAGE BY HEMOGLOBIN, WHILE MAKING
ACCESSIBLE TO DEGRADATIVE ENZYMES.
                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                Liver
                                                                                                                                                                                                                                                                                                                                                                                                                             Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                            PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kurosky A., Kim H.H., Touchstone B.;
"Comparative sequence analysis of the N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 85-124. MEDLINE=77025019; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  haptoglobin
              604
                                                                                                      485
                                                                                                                                                  429
                                                                                                                                                                                                369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amino
                                   181
                                                                               127
                                                                                                                            67
                                                                                                                                                                          18
                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN.

SIMILARITY: THE BETA CHAIN IS CLEARLY RELATED TO SERINE PROTEASES, BUT HAPTOGLOBIN HAS NO PROTEOLYTIC ACTIVITY. PROBABLY BECAUSE THE POSITIONS CORRESPONDING TO THE PROTEOLYTIC ACTIVE SITE RESIDUES IN PROTEASES ARE OCCUPIED BY DIFFERENT AMINO ACIDS IN HAPTOGLOBIN.

JX0223; JX0223.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBUNIT: TETRAMER OF TWO ALPHA AND TWO BETA CHAINS SUBCELLULAR LOCATION: Extracellular.
TISSUE SPECIFICITY: SYNTHESIZED IN THE LIVER, THEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANEOUS: THE HEMOGLOBIN
                                                                                                                                                                                               PDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IN PLASMA
                                                      INSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMYVDIPIVDHQKCTAAYE
                                                                                                                                                  VCEPVCGLSARTTG--GRIYGGQKAKPGDFPWQVLILG--GTTAAGALLYDNWVLTAAHA 484
                                   IDERVMPICLPSKD --
                                                                              LFLGHKDDAKANDI-APTLKLYVGKNQLVEVEKVVLHPDYS----
                                                                                                   VY-EQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFDNDIALIKLNNKVV
                                                                                                                           ECEAVCGKPKNPVDQVQRIMGGSVDAKGSFPWQAKMVSHHNLTSGATLINEQWLLTTAKN
                                                                                                                                                                                                                      104;
                                                                                                                                                                                                                                                                                                                                                                                                                            SM00020; Tryp_SPC; 1.
SM00020; Tryp_SPC; 1.
SM00020; Tryp_SIN_DOM;
                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                  107
214
329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                                                                                                                                                                                                                                                           232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112:11-19(1992).
                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                     85
85
34
72
             KPPYPRG---
                                                                                                                                                                                                                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=975782;
                                                                                                                                                                                                                                                                           329
329
329
189
263
304
107
214
                                                                                                                                                                                                                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                   36457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chymotrypsin.
Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                               10.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                           protease homolog; Plasma; Hemoglobin-binding;
                                  -YAEVGRIGYVSGWGRNSNFNFTELLKYVMLPVADQDKCVQHYE
SVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERWFVGGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              disulfide-bridge location
                                                                                                                                                                                                                                                                   WW.
                                                                                                                                                                        -MIRYQCKPFYKLHTEGDGVYTLNSEKHWTNKAVGEKLP
                                                                                                                                                                                                                      45;
                                                                                                                                                                                                                                                                            N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                REMOVED CHAINS).
                                                                                                                                                                                                                               Score 403;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                          HAPTOGLOBIN BETA SERINE PROTEASE.
                                                                                                                                                                                                                                                                                                   N-LINKED
                                                                                                                                                                                                                                                                                                                                    INTERCHAIN (ALPHA-BETA)
                                                                                                                                                                                                                                                                   86E32CA3E9CC2C48 CRC64;
                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BINDING
                                                                                                                                                                                                                                                                                                                                                                                          (IN
                                                                                                                                                                                                                                                                           (GLCNAC. .
                                                                                                                                                                                                                              DB 1;
.2e-23;
                                                                                                                                                                                                                                                                                                                                                                                          ALPHA CHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SITE
                                                                                                                                                                                                                      145;
                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SI
                                                                                                                                                                                                                                          Length 329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  region
                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                           808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THEN RELEASED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of
                                                                               -KVDIGLIKLKQKVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HEMOGLOBIN,
PROTECTING
                                                                                                                                                                                                                                                                                                                                                                                           QF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                canine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HEMOGLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of
                                                                                                                                                                                                                                                                                                                                                                                           THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Z
                                                                                                                                                                                                                    38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THE
                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BETA
                                                       603
                                                                              180
                                                                                                     543
                                                                                                                           126
                                                                                                                                                                        66
```

:

```
RESOLUTION OF THE STATE OF THE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O_HUMAN STANDARD,
FA10_HUMAN STANDARD,
FA10_HUMAN STANDARD,
F00742; 014340;
P00742; 014340;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1989 (Rel. 12, Last seque)
115-JUN-2002 (Rel. 41, Last annot)
15-JUN-2002 (Rel. 41, Dast annot)
15-JUN-2002 (Rel. 41, Dast annot)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [2]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE-87026600; PubMed-3768336;
MEDLINE-87026600; PubMed-3768336;
Leytus S.P., Foster D.C., Kurachi K., Davie E.W.;
"Gene for human factor X: a blood coagulation factor whose
"Gene for human factor X: a blood coagulation factor yields."
"Gene for human factor X: a blood coagulation factor yields."
"Gene for human factor X: a blood coagulation factor yields."
Inoue K., Morita T.;
Inoue K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gene
[5]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-85216545; PubMed=2582420; Fung M.R., Hay C.W., McGillivray R.T.A.; Fung M.R., Hay C.W., McGillivray R.T.A.; Coding "Characterization of an almost full-length cDNA coding blood coagulation factor x."; Proc. Natl. Acad. Sci. U.S.A. 82:3591-3595(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Complete amino acid sequence of the light chain of human coagulation factor X: evidence for identification of resideta-hydroxyaspartic acid."; Biochemistry 22:2875-2884(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=91216473; PubMed=1902434;
Messier T.L., Pittman D.D., Long (
"Cloning and expression in COS-1 human coagulation factor X.";
Gene 99:291-294(1991).
                                                                                                                                                                                                                                                         Leytus S.P., Chung D.W., Kisiel W., Kurachi K., D "Characterization of a cDNA coding for human fact Proc. Natl. Acad. Sci. U.S.A. 81:3699-3702(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kwa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=83257207; PubMed=6871167; McMullen B.A., Fujikawa K., Kisiel W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=84222026; PubMed=6587384;
                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 115-488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kaul R.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=86221713;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE-Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF
                                                                                                                                                       MEDLINE=94062825; PubMed=8243461;
                                                                                                                                                                                            SEQUENCE OF 183-234,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Isolation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41:311-314(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LSF-DKSCTVA-EYGVYVKVPSVLAWVQETIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VSWGSMNCGEAGQYGVYTKVINYIPWIENIIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSTVPEKKSPKSPVGVQPILNEHTFCAGMSKFQEDTCYGDAGSAFAVHDQDEDTWYAAGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Weinstein B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and characterization of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hildebrand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-488 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-488 FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=3011603;
                                                                                                                                                                                                                                                                                                                                                                                                                                          FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
Primates;
                                                                                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D.D., Long G.L., on in COS-1 cells tor X.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    z
                                                                                                                                                                                        CARBOHYDRATE-LINKAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                       N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence update)
annotation update)
rsor (EC 3.4.21.6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                       AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s
S
                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jagadeeswaran P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sasagawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kaufman R.J., Church W.R.; of a full-length cDNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            blood-coagulation factor
                                                                                                                                                                                                                                                                                                                                                                                                                                       SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hominidae;
                                               chains in the activation role of the carbohydrate
                                                                                                                                                                                                                                                                                                 factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Stuart
                                                                                                                                                                                            SITES
                                                                                                                                                                                                                                                                                                 Davie E. ctor X.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Howald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                 Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      e gene
IX and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Σ
Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ×
```

```
EMBL;
EMBL;
PIR; ;
                                                                                                                                                                                                      EMBL;
EMBL;
                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                             EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Padmanabhan K., Padmanabhan K.P., Tulinsky A., Park C.H., Bode Huber R., Blankenship D.T., Cardin A.D., Kisiel W.; "Structure of human des(1-45) factor Xa at 2.2-A resolution."; J. Mol. Biol. 232:947-966(1993).
GlycoSuiteDB; P007
Genew; HGNC:3528;
MIM; 134530; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=90128299; PubMed=2612918; Jagadeeswaran P., Reddy S.V., Rao K.J "Cloning and characterization of the encoding human factor x.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kamata K., Kawamoto H.,
"Structural basis for c
factor Xa.";
Proc. Natl. Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-98283982;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93360277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene 84:517-519(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eur. J. Biochem.
[8]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 1-23
                                                                                 R; A00924; EXHU.
R; A25853; A25853.
R; A24478.
B; 1HCG; 08-MAY-95.
B; 1FAX; 29-OCT-97.
B; 1FXY; 17-JUN-98.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PC. Natl. Acad. Sci. U.S.A. 95:6630-6635(1998).

FUNCTION: Factor Xa is a vitamin K-dependent glycoprotein that converts prothrombin to thrombin in the presence of factor Va, calcium and phospholipid during blood clotting.

CATALYTIC ACTIVITY: preferential cleavage: Arg-1-Thr and then Arg-1-Ile bonds in prothrombin to form thrombin.

SUBUNIT: THE TWO CHAINS ARE FORMED FROM A SINGLE-CHAIN PRECURSOR BY THE EXCISION OF TWO ARG RESIDUES AND ARE HELD TOGETHER BY 1 OR MORE DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PTM: N- AND O-GLYCOSYLATED.

PTM: THE ACTIVATION PEPTIDE IS CLEAVED BY FACTOR IXA (IN THE FINTRINSIC PATHWAY), OR BY FACTOR VIIA (IN THE EXTRINSIC PATHWAY).

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

SIMILARITY: CONTAINS 2 EGF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MORE DISULFIDE BONDS.
TISSUE SPECIFICITY: Plasma; synthesized in the liver.
TTHE VITAMIN K-DEPENDENT, ENZYMATIC CARBOXYLATION
GLUTAMIC ACID RESIDUES ALLOWS THE MODIFIED PROTEIN TO
                                                                                                                                                                                                                               129433; AAA52764.1;
100390; AAA52764.1;
100391; AAA52764.1;
100392; AAA52764.1;
100393; AAA52764.1;
100394; AAA52764.1;
100394; AAA52764.1;
100395; AAA52764.1;
                                                                                                                                                                                                                                                                                                                         K03194; AAA52490.1;
M57285; AAA52421.1;
L29433; AAA52764.1;
                                                                                                                                                                                                                       L00396
                                                       23-MAR-99.
23-MAR-99.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kawamoto H.,
                                                                                                                                                                                                     AAA52764.
AAA51984.
                                                                                                                                                                        AAA52636
                             P00742;
                                                                                                                                                                                          AAA52486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   218:153-163(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=9618463;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PubMed-8355279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chemical inhibition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Honma T.,
                                                                                                                                                                                                                   JOINED.
JOINED.
JOINED.
JOINED.
JOINED.
JOINED.
JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           k.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Iwama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hamsabhushanam K., end (exon 1) of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86-179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86-179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (exon 1) of the gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 blood coagulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              235-278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 235-278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OF SOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lyman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G.,
```

δõ 밁

150

PTCDHH---CHNHLGGFYCSCRAGYVLHRNKRTCSALCSGQVFTQRSGELSSPEYPRPYPK 207 CMEETCSYEEA--REVFED-----SDKTNE----FWNKY--KDGDQCETSP---

94

```
δÃ
                                                        Query Match
Best Local S
Matches 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0754; gla; 1.

R PRINTS; PR00722; CHYMOTRYPSIN.
R PRINTS; PR00001; GLABLOOD.
SMART; SM00179; EGF_CA. 1
SMART; SM00001
                                                                                                                                                                                                                                                                                                                                                                                   SMART: SM00179; EGF_CA; 1.

SMART: SM00001; EGF_11ke; 1.

SMART: SM000001; EGF_11ke; 1.

SMART: SM00000; GLA; 1.

SMART: SM00020; Tryp_SPC; 1.

SMART: SM00020; Tryp_SPC; 1.

PROSITE: PS00010; ASX_HYDROXYL; 1.

PROSITE: PS001187; EGF_CA; 1.

PROSITE: PS01187; EGF_CA; 1.

PROSITE: PS001187; EGF_CA; 1.

PROSITE: PS00134; TRYPSIN_DM; 1.

PROSITE: PS00134; TRYPSIN_HIS; 1.

PROSITE: PS00135; TRYPSIN_SER; 1.
                                                     DISULFID DISULFID DISULFID
                                                                               ACT_SITE
ACT_SITE
DISULFID
                                                                                                                                            CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                               DOMAIN
MOD_RES
                                                                                                                                                                                                                                                                                                        CHAIN
PROPEP
CHAIN
                                                                                                                                                                                                                                                                                        DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                                                                                                   Glycoprotein; Hydrolase; Serine protease; Plasma; Blood coagulation; Gamma-carboxyglutamic acid; Hydroxylation; Calcium-binding; Vitamin
                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                             Signal;
                                                                                                          ACT_SITE
                                                                                                                                                                       MOD_RES
                                                                                                                                                                                                                                                                                                                                           PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MIM; 227600;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                   Local Similarity nes 142; Conserv
  90
CGQESTDTERAPGKDTFYSLGSSLDITFRSDYSNEKPFTGFEAFYAAEDIDECQVAPGEA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR001254;
IPR000294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR001881;
IPR002383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR0007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR000152;
                                                       276
322
419
90
95
112
                    Conservative
                                                                                                                                              EGF-like
                                                                                                                                             488
466
47
54
560
669
672
772
103
199
2211
                                                       276
322
419
101
110
121
140
                                                                                                                          231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGF_Ca.
GLA_blood.
                           10.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ser_protease_Try.
VitK_dep_GLA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chymotrypsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Asx_hydroxyl.
                                                                                                                                                                                                                                                                                                                                                           acid; Hydroxylation;
like domain; Repeat;
                   81;
                                                                                                                                                                             GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
GAMMA -CARBOXYGLUTAMIC A
                                                                                       O-LINKED (GALNAC...
O-LINKED (GALNAC...
N-LINKED (GLCNAC...
/FTId=CAR.000012...
/FTId=CAR.00013...
/FTId=CAR.000013...
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
                  Score 403; DB 1;
Pred. No. 6.9e-23;
1; Mismatches 173
                                                                                                                                                                       HYDROXYLATION
                                                                                                                                                                                                                                                                               SERINE PROTEASE
                                                                                                                                                                                                                                                                                       ACTIVATED FACTOR XA, HEAVY CHAIN EGF-LIKE 1, CALCIUM-BINDING (POTEGF-LIKE 2.
                                                                                                                                                                                                                                                                                                                  ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                         HEAVY CHAIN.
                                                                                                                                                                                                                                                                                                                                                             3D-structure
                                    Length 488
                    Indels
                                                                                                                                                                               ACID.
ACID.
ACID.
ACID.
ACID.
ACID.
ACID.
                                                                                                                                                                                                                                                                                               (POTENTIAL).
                  Gaps
                                                                                                                                                                                                                                                                                                                                                                     7.
                   28
```

```
RESULT 23
FA9_CAVPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                            PPPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ър
                                                                                                                                                                                                                                                                                                                                                               01-AUG-1990 (Rel. 01-AUG-1990 (Rel. 1990 (Rel. 15-JUN-2002 (Rel. Coagulation factors).
                                                                                                                SEQUENCE FROM N.A.

MEDLINE=90152675; PubMed=2303254;

MEDLINE=90152675 PubMed=2303254;

Sarkar G., Koeberl D.D., Sommer S.S.;

Sarkar G., Koeberl D.D., Sommer S.S.;

Phirect sequencing of the activation peptide and the catalytic domain of the factor IX gene in six species.";

Genomics 6:133-143(1990).

-i- FUNCTION: FACTOR IX IS A VITAMIN K-DEPENDENT PLASMA PROTEIN THAT PARTICIPATES IN THE INTELNISIC PATHWAY OF BLOOD COAGULATION BY CONVERTING FACTOR X TO ITS ACTIVE FORM IN THE PRESENCE OF CA++

IONS, PHOSPHOLIPIDS, AND FACTOR VIIIA.

-i- CATALYTIC ACTIVITY: Hydrolyzes one Arg-|-Ile bond in factor X to
                                                                                                                                                                                                                                                                                                                                                                                                                                                            FA9_CAVPO
P16295;
                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10141;
   between
                   This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134
                                                         form factor Xa.

SUBUNIT: FACTOR IX IS ACTIVATED BY FACTOR XIA, WHICH ACTIVATION PEPTIDE AND THUS PRODUCES A MOLECULE CONSCIPLINATION FOR THE BY ONE OR MORE DISULFIDE BONDS.
                                               SIMILARITY: BELONGS
                   SWISS-PROT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SFMRTDDIGTASGWGLT-QRGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YGGQKAKPGDFPWQVLILGGTT----AAGALLYDNWVLTAAHAVYEQKHDASALDIRMGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \mathbb{R} \stackrel{\cdot\cdot}{-} \mathbb{R}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGYDTKQEDACQGDSGGPHVTRFKDT--YFVTGIVSWGE-GCARKGKYGIYTKVTAFLKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGLESGGKDSCRGDSGGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLS-----SSFIITQNMFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NTEQEEGGEAVHEVEVVIKHNRFTKET-YDFDIAVLRLKTPITFRMNVAPACLPERDWAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKR----FKVRVGDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFCETGYELLQGHLPLKSFTAVCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R---KRSVAQATSSSGEAPDSITWK------PYDAA-----DLDPTENPFDLLD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RIETKSNTVTITFVTDESGDHTGWKIHYTSTAQPCPYPMAPPNGHVSPVQAKYILKDSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GDCD-QFCHEEQNSVVCSCARGYTLADNGKACIP-----TGPYPCGKQTLER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LSSCTYSISLEEGESVILDEVESEDVETHPETLCPYDFLKIQTDREEHGPE-CGK-TLPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KRLSPHYTQAWS - - EAVFIHEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKE - AE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -CQNQGKCKDGLGEYTCTCLEGF----EGKNC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        680
   the
                                                                                                                                                                                                                                                                                                                                                                                            (Rel. 15, Created)
(Rel. 15, Last sequence up
(Rel. 41, Last annotation
factor IX (EC 3.4.21.22)
   Swiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                 entry is copyright.
                                                                                                                                                                                                                                                                                                                                                                (Guinea pig).
   Institute
                                                                                                                                                                                                                                                                                                                                   Rodentia;
                                                                                                                                                                                                                                                                                                                                                 Chordata;
                                             TO PEPTIDASE FAMILY S1.
   0f
                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Eute
Hystricognathi; Caviidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
   Bioinformatics
                 It is
                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                              n update)
(Christmas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ::||:: | :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RGDNNLT - -
produced through a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                            factor) (Fragment).
                                                                            WHICH EXCISES
                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                   Cavia
                                                                                                                                                                                                                                         domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ř
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133
```

```
RESULT 24
HPT_ATEGE
ID HPT_ATEGE
AC P50417;
DT 01-OCT-1996 (
DT 01-OCT-1996 (Re
T 01-OCT-1996 (Re
HPL
Ate-1-
  RN COC
                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
CARBOHYD
CARBOHYD
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
NCBI_TaxID=9509;
[1]
                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50240; TRYPSIN_DOM; PROSITE; PS00134; TRYPSIN_HIS; PROSITE; PS00135; TRYPSIN_SER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00089; trypsin; 1
SMART; SM00020; Tryp_SPc;
PROSITE; PS00011; GLU_CAR
                                            Ateles geoffroyi (Black-handed spider monkey)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M26237; AAA37037.1; HSSP; P16293; 1PFX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Blood coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEROPS; S01.214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                 657
                                                                                                                                                                                                                                          214
                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                              432
                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                         154
                                                                                                                                                                                                                                                                                                                                        106
                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                          372 LPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEKSLPVCE 431
                                                                                                                                                                                                                                                                                                                                                                                        56
                                                                                                                                                                                                                                                                                                                                                                                                                                    4 IPSVSKEHNRANAIFSRMGYVNFTDDETIWDDNDDD-----ETIWDNST-ESTKPSDE
                                                                                                                                                                                            E-ECAMKGKYGIYTKVSRYVNW
                                                                                                                                                                                                         SMNCGEAGQYGVYTKVINYIPW
                                                                                                                                                                                                                                                      CTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDSGGALVFLDSETERW-FVGGIVSWG
                                                                                                                                                                                                                                                                                                                                                                                                   PVCGLSARTTGGRIYGGQKAKPGDFPWQVLILGGTTA--AGALLYDNWVLTAAHA-----
                                                                                                                                                                                                                                            CLRS----
                                                                                                                                                                                                                                                                                         DKPLSLNSYVTPICIANREYTNIFLKFGAGYVSGWGKLFSQGRTASILQYLRVPLVDRAT
                                                                                                                                                                                                                                                                                                              NNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG-LTQRGFLARNLMYVDIPIVDHQK
                                                                                                                                                                                                                                                                                                                                       KIEVVAGKHN---IEKKEDTEQR--RNVTQ-----IILHHSY--NASFNKYSHDIALLEL
                                                                                                                                                                                                                                                                                                                                                               ---VYEQKHDASALDIRMGTLKRLSPHYTQAWSEAVFIHEGYTHDAGFD----NDIALIKL
                                                                                                                                                                                                                                                                                                                                                                                      FF-----RVVGGEDAKPGQFPWQVLLNGETEAFCGGSIVNEKWIVTAAHCILPGI 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 32.
04; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IPR001254; Ser_protease_
IPR000294; VitK_dep_GLA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
147
243
25
45
45
127
138
285
285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycoprotein.
                                                                                 (Rel. 34,
(Rel. 34,
(Rel. 34,
                                                                     precursor
                                                                                                                                                                                                                                         -TKFTIYNNMFCAGFHEGGRDSCQGDSGGPHV---TEVEGTNFLTGIISWG
                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
147
243
45
45
127
138
285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plasma; Serine protease;
                     Chordata; Craniata; Vertebrata; Primates; Platyrrhini; Cebidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10.7%;
32.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ser_protease_Try.
                                                                                 Last sequence up
                                                                                                        Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOXYLATION;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
                                                                                                                                                                                                                 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 402.5; DB 1;
Pred. No. 3.8e-23;
8; Mismatches 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68E36DD317C11C60 CRC64;
                                                                                            update)
                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       There are no rest
                                                                                                                                 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Calcium-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                       Atelinae;
                                  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55;
                       Ateles.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                               597
                                                                                                                                                                                                                                                                                                                                       153
                                                                                                                                                                                                                                                                                                                                                               538
                                                                                                                                                                                                                                         264
                                                                                                                                                                                                                                                                 656
                                                                                                                                                                                                                                                                                       213
                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                      55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15;
```

```
Ser_protease_Try.

sushi_SCR_CCP.

sushi_ScR_C
    Ş
                                                밁
                                                                                        Ş
                                                                                                                                       В
                                                                                                                                                                              Š
                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                            SQFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ase by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Erickson L.M., Becker L., Maeda N.;
Submitted (JAN-1994) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: HAPTOGLOBIN COMBINES WITH FREE PLASMA HEMOGLOBIN,
-PREVENTING LOSS OF IRON THROUGH THE KIDNEYS AND PROTECTING THE
KIDNEYS FROM DAMAGE BY HEMOGLOBIN, WHILE MAKING THE HEMOGLOBIN
ACCESSIBLE TO DEGRADATIVE ENZYMES (BY SIMILARIY).
-!- SUBUNIT: TETRAMER OF TWO ALPHA AND TWO BETA CHAINS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between the Swiss Institute
the European Bioinformatics I
use by non-profit institut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                   426
      528
                                                   142
                                                                                                                                                                                                                                                                            366
                                                                                             482
                                                                                                                                         82
                                                                                                                                                                                                                               \boldsymbol{\omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY).
SUBCELLULAR LOCATION: Extracellu SUBCELLULAR LOCATION: Extracellu TISSUE SPECIFICITY: SYNTHESIZED IN PLASMA (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROTEASES, HAPTOGLOBIN HAS NO ENZYMATIC ACTIVITY. POSITIONS CORRESPONDING TO THE PROTEOLYTIC ACTIVE SITE RESIDUES OF THE PROTEASES ARE OCCUPIED BY DIFFERENT AMINO ACIDS IN HAPTOGLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: ALTHOUGH THE BETA PROTEASES, HAPTOGLOBIN HAS NO
GFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWGLTQRGFLARNLMY
                                                                                                                                                                            SLPVCEPVCGLSARTTG--GRIYGGQKAKPGDFPWQVLILG--GTTAAGALLYDNWVLTA 481
                                                                                                                                                                                                                           CPKPPEIANGYVEHL-------VRYQCKKYYRLRTEGDGVYTLNNEKQWTNKAVGD
                                                                                                                                                                                                                                                                     CGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFYTMKVNDGKYVCEADGFWTSSKGEK 425
                                            AKNLFLNHSENATAKDIAPTLTLYVGKNQLVEIEKVVLYPNYSQV--------
                                                                                        AHAVY-EQKHDASALDI------RMGTLKR--LSPHYTQAWSEAVFIHEGYTHDA
                                                                                                                                  {\tt KLPECEAVCGKPKNPANPVQRILGGHLDAKGSFPWQAKMVSRHNLTTGATLINEQWLLTT}
                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                            19
103
103
103
33
52
90
250
250
292
1125
1148
1152
1182
                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                            38476
                                                                                                                                                                                                                                                                                                                                          10.7%;
                                                                                                                                                                                                                                                                                                                                                                                                            MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Extracellular.
                                                                                                                                                                                                                                                                                                                 55;
                                                                                                                                                                                                                                                                                                                                                                                                                              INTERCHAIN (ALPHA-BETA) (BY SIMILARITY
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                             Score 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of Bioinformatics and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BETA CHAIN IS
                                                                                                                                                                                                                                                                                                                                                                                                         208A809E7C17C21F CRC64;
                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                        No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     There are no restrictions on ng as its content is in no
                                                                                                                                                                                                                                                                                                                                          .3e-23
                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLEARLY RELATED TO
                                                                                                                                                                                                                                                                                                                   132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Usage
                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THEN
                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bу
                                                                                                                                                                                                                                                                                                                                                               347;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RELEASED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SERINE
                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                commercial
                                                                                        527
    587
                                                186
                                                                                                                                    141
                                                                                                                                                                                                                           81
                                                                                                                                                                                                                                                                                                                   12;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HEPS_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HEPS_RAT STANDARD;
Q05511;
01-FEB-1994 (Rel. 28, Cr
01-FEB-1994 (Rel. 28, La
15-JUN-2002 (Rel. 41, La
Serine protease hepsin (
DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
DISULFID
DISULFID
                                                                                                                                                                 SMART; SM00202; SR; 1.
SMART; SM000202; Tryp_SPC; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS00134; TRYPSIN_HIS; 1.
PROSITE; PS00135; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-93305733; PubMed-8318546; Farley D., Reymond F., Nick H.; "Cloning and sequence analysis of rat hepsin,
                                                                                                                                 CHAIN
                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                 PIR; S32013; S32013.
PIR; S33777; S33777.
HSSP; P00763; 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biochim. Biophys. Acta 1173:350-352(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Cloning and proteinase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                              DOMAIN
                                                                                                        TRANSMEM
                                                                                                                                                        Hydrolase;
                                                                                                                                                                                                                                    PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                                                                                                               Pfam; PF00089; trypsin;
                                                                                                                                                                                                                                                         InterPro; IPR001314; Chymotrypsin.
InterPro; IPR001254; Ser_protease_Try.
InterPro; IPR001190; Srcr_receptor.
                                                                                                                                                                                                                                                                                                                                                       EMBL; X70900; CAA50256.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HPN.
                                                                                                                                                                                                                                                                                                     MEROPS; S01.224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               187
                                                                                                                                                                                                                                                                                                                                                                                                                  ween the Swiss Institute of Bioinformatics and the insurance Bioinformatics Institute. There are no resingly non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: TO SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF CELL MORPHOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FAVHDLEEDTWYAAGILSF-DKSCGVA-EYGVYVKATSIQDWVQKTIAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWIENIISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VMLPVADQYQCVKHYEGSTVPEKKTPKSPVGQQPILNEHTFCAGMSKYQEDTCYGDAGSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VDIPIVDHQKCTAAYE-----KPPYPRGS---VTANMLCAGLESGGKDSCRGDSGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----DIGLIKLKDKVPVNERVMPICLPSKD---YAEVGRVGYVSGWGRNANFKFTDHLKY
                                                                                                                                                        Serine
                                                                                                     162
1
17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                        protease;
 416
416
202
256
352
276
203
                                                                                                     161
416
16
43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last
n (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Type II membrane protein.

O PEPTIDASE FAMILY S1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          annotation 3.4.21.-).
                                                                                                                            Transmembrane; Signal-anchor.
NON-CATALYTIC CHAIN (POTENTIAL)
CATALYTIC CHAIN (POTENTIAL).
          CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                               EXTRACELLULAR (POTENTIAL). SERINE PROTEASE.
                                                                                                    CYTOPLASMIC (F
SIGNAL-ANCHOR
                                                                                         (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
 SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                    (POTENTIAL)
OR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AND
                                                                                                                                                                                                                                                                                                                                                                                                                            restrictions on it
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAINTENANCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     636
```

JC 98	D Qy	Db Qy	Db Og	Db	Qy	Qy Db	Ωy		FT
Searc Job t	0 ~	0 ~	0 ~	Ü			0 ~	Que Bes Mat	
ch co	634 353	575 297	520 239	462 179	402 152	347 115	311 55	Query Match Best Local Matches 12	DISULFID DISULFID CARBOHYD SEQUENCE
mple: 45								(3 12)	JLFI JLFI JENC
eted: 5 secs	ALVI   HFVC	QFYC	GYLI  -  -	GC       	KVNI	VCQ!    FCVI	PVQ <i>I</i> PGDS	h Sin 23;	H D D D
555 1: Ji	EDR	FLA   	FRD	HLC	)GKY	EGG	KYI RLL	nila Co	321 348 111 416
anua	-SET     ISGT	RNLM - VVLQ	AGFD   PTID	AGAL  :  GGSL	VCEA	W	LKD- :   VLDK	Query Match Best Local Similarity 30. Matches 123; Conservative	321 348 111 416 AA;
ry 2	ERWI  - SRWI	YVD]	ENS	LYDN	DGFV	DRPN   :	TEGI	va	337 380 111 44
ü	TCG	PII   :	DIA:	WVL.	TSSI	DVI	WRL	10.7%; 30.1%; Live 5	37 80 11 44926 MW;
2003	GIVSWGS	DHQK :: SNEV	CAHT  :   CIKT	PAAH       TAAH	KGEK   :	SIVD SVCD	SSDT    -	50	, WM
Search completed: January 23, 2003, 22:18:12 Job time : 45 secs	GSMN  : GT-G	CTAP	NNKV :::::	AVYE       CFPE	SSKGEKSLPVCEPVCGL   :     GRRKLPV	C	RSNA	Scor Pred	BY S BY S
1:18	CAL	YEKI	'LTA'	QKHI : :RNR¹	CEP	I	RVA	e 40	IMI IMI NKE
:12	AGQY   : ARKP	DFYP :	OI AE	DASA      LSR	/CGL	SGR        RGR	3LGC	01.5 0.7 atch	BY SIMILARITY. BY SIMILARITY. N-LINKED (GLCNAC E5A9F8FA9550E1
	GVYT         GVYT	RGSV : GNQI	PICL PVCL	LDIR : WRVF	SART	VEYI :: FL	-ETG	, D .3e-	TY. TY. LCNA
	GGALVFLDSETERWFVGGIVSWGSMNCGEAGQYGVYTKVINYIPWI 679 	LTQ-RGFLARNLMYVDIPIVDHQKCTAAYEKPPYPRGSVTANMLCAGLESGGKDSCRGDS	HEGYTHDAGFDNDIALIKLNNKVVINSNITPICLPRKEAESFMRTDDIGTASGWG 	ILGGTTAAGALLYDNWVLTAAHAVYEOKHDASALDIRMGTLKRLSPHYTQAWSEAVFI :	TMKVNDGKYVCEADGFWTSSKGEKSLPVCEPVCGLSARTTGGRIYGGQKAKPGDFPWQVL	VCQKDGSWDRPMPACSIVDCGPPDDLPSGRVEYITGPGVTTYKAVIQYSCEETFY	VSPVQAKYILKDSFSIFCETGYELLQGHLPLKSFTA :	Score 401.5; DB 1; Pred. No. 7.3e-23; 50; Mismatches 133;	SIMILARITY. SIMILARITY. LINKED (GLCNAC) (POTENTIAL). E5A9F8FA9550E180 CRC64;
	YYIPI :: )FRE	AECA	AES:	KRL      ART	RIVG	VTT	LAH   		CRC
	WI 679	GYPE	EMRT : ALVD	SPHY     SPHY	GQKA  : GQDS	YKAV	LPLK   SELD	Length Indels	(PO 64;
	79 99	GGKE	DDIG ; GKVC	TQAW   VQLC	KPGI   SLGF	IOYS	SETA  - VRTA	h 416; s 102	TENI
		SCRO : : )ACQO	TAS	ISEA     :     VQA	)FPW(	VIQYSCEETFY : :: TCQD	GAN	416; 102;	TAL,
						TFY	3TS	Gaps	·
		633 352	574 296	519. 238	461 178	401 151	346 114	sq	
								18;	

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                        Title:
                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                   OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                      January 23, 2003, 22:20:36 ; Search time 326 Seconds (without alignments) . 4738.868 Million cell updates/sec
                                                                                                                                Xgapop 10.0 , Xgapext Ygapop 10.0 , Ygapext Fgapop 6.0 , Fgapext Delop 6.0 , Delext
                                                                                                                                                                                                                                                                      US-09-874-198-2
3758
                                                                                                                                                                                                             BLOSUM62
                                                                                            2185239 seqs, 1125999159 residues
                                                                                                                                                                                                                                                     1 MRLLTLLGLLCGSVATPLGP......
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                    0.5
7.0
7.0
                                                                                                                                                                                                                                                 GVYTKVINYIPWIENIISDF
                                                         4370478
```

Post-processing: Minimum Match 0%

Maximum Match

Match 100% first 75 summaries

.. N\_Geneseq\_101002:\*

1: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1980.DAT:\*

2: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1981.DAT:\*

2: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1982.DAT:\*

3: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1983.DAT:\*

4: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1983.DAT:\*

5: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1983.DAT:\*

6: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1983.DAT:\*

7: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1986.DAT:\*

7: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1986.DAT:\*

9: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1987.DAT:\*

10: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1987.DAT:\*

11: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1987.DAT:\*

12: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1987.DAT:\*

13: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

14: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

15: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

16: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

17: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

18: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

19: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

20: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

21: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

22: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

23: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

24: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

25: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

26: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

27: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

28: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

29: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

20: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA1993.DAT:\*

21: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA2001.DAT:\*

22: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA2001.DAT:\*

23: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA2001.DAT:\*

24: \SIDS2\gcgdata\geneseq\geneseqn-embl\NA2001.DAT:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		00 0 ωωωωωωωωυ	° °	Resul No
	470. 470. 470. 470. 470. 470. 470. 470.	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	123 123 1086. 1086. 689. 536. 499	Scor 3738. 161 160 160 141 141 141
	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			rch 17.66
3104 3096 807 2409 3143 3143 3143 3143 3143 3104 3696 2900 2240 2900 2241 3546 4140 4140 1327 1327 1327 1327 1327 1327 1327 1327	3448 3448 3448 4182 4182 4182 4182	3147 3147 3147 3147 2955 3142 3152 3152 3152 3153 3154 3115	2647 2725 2908 2358 2063 1148 371 371 1667 1667	Length 2472 3106 31863 3895 2492 2493
22222110833412422221104224444	220022200	18 22 21 21 22 21 22 21	24 22 23 22 23 23 23 23 23	DB 24 23 22 22 22 20 20
AAD37039 AAIT72488 ABQ86158 AAF90204 AAF31797 AAZ31033 AAC78494 AAC58236 AAD131117 AAD131165 AAD131165 AAD131177 AAD131165 AAD1311785 AAD131785 AAD13178785 AAD1317878787878787878787878787878787878787	AAX25389 AAX03946 AAX03946 AAX22759 AAF58999 AAV06054 AAX05388 AAX25388 AAX25388 AAX25388 AAX25388	AADJ3113 AADJ355 AAH23601 AAH23609 AAA88492 AAF28099 AAA88493 AAH57431 AAA37657 AAC77957 ABA08672 AAH08672 AAH08672 AAH08672	ABNO5607 AAC77788 ABKG3441 ABKG3441 AAS92433 AAS92433 AAF18149 AAF18149 AAK53540 AAAK93124 AAS14091 AAS14091 AAS14091	ID  AAD24224  AAS65321  AAH43512  AAF63985  AAX64297  ABA83114  ABN95758
gene. genering e sering e sering e sering of the sequence of t	seshoe seshoe seshoe gapore gapore seshoe seshoe seshoe	Human membrane-typ Human membrane-typ Human TADG-15 codi Human TADG-15 anti Human TADG-15 anti Human membrane-typ Human protein enco	#210 n can can seque cance can	-2 cDN ng nov ing pr ne pro lement compo

(MASP-2) activation

0 other;

2472 685 0 1 1

```
AAD24224
ID AAD2
 DA X A X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       68
69
70
71
72
73
                                                 Use of a polypeptide comprising amino acid sequence derived mannan-binding lectin associated serine protease-2 (MASP-2) producing pharmaceutical composition, to treat bacterial, further than the composition of the composit
                                                                                                                                                                                                                                                                            13-JUL-2000; 2000DK-0001089
01-JUN-2001; 2001DK-0000870
                                                                                                                                                                                      Jensenius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; mannan-binding lectin associated serine protease-2; MASP-2; MBL; complement fixation; infection; microbe; retrovirus; HIV; abortion; human immunodeficiency virus; pathogenic bacteria; inflammatory disorder; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD24224 standard;
 Example 1;
                                                                                                                               P-PSDB;
                                                                                                                                                                                                                                                                                                                                   13-JUL-2001; 2001WO-DK00499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sig_peptide
                                                                                                                                                                                                                       (JENS/) JENSENIUS
(THIE/) THIEL S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                            0200206460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uman MASP-2 cDNA clone phl-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410
408.5
408
408
408
408
                                                                                                                                                2002-179791/23
                                                                                                                             AAE14564, AAE14568
                                                                                                                                                                                    JC,
Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10
10
10
10
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first
 6,
                                                                                                                                                                                    Thiel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= 0
82..2091
/*tag= 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MASP-2
37..81
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product= "2095..2472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /transl_except= (pos:928..930, aa:Ala)
/note= "The last two translation exceptions
only while decoding the alternative version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product= "MASP-2 precursor protein"
/transl_except= (pos:499..500, aa:His)
/transl_except= (pos:501, aa:Cys)
/transl_except= (pos:925..927, aa:His)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37..2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                          ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3919
5145
2792
13928
13928
1467
1467
1467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA;
                                                                                                                                                                                                                                          O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entry)
                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19
20
22
15
19
19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Mature MASP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV10355
AAV45185
AAX28626
AAH77500
AAQ70104
AAV56776
AAV56821
AAF59409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haemophilia B gene
Bovine enterokinas
Human Factor X gen
Human Factor X nuc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nucleotide sequenc
Nucleotide sequenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human tolloid-like
                                                                        for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of the
                                                       viral
                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment
Pred. No.:
                                                 Q
                                                                                         밁
                                                                                                                         Q
                                                                                                                                                                 g
                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                          δÕ
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-874-198-2 (1-686) x AAD24224 (1-2472)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               retrovirus (e.g. human immunodeficiency virus (HIV)), or pathogenic bacteria which are resistant to at least one antibiotic medicament or multiresistant. The polynucleotide encoding MASP-2 is useful for treating patients deficient in MASP-2. The invention also discloses MASP-2 assays which are useful for determination of MASP-2 activity or levels in patients suffering from e.g. infections, inflammatory disorders and spontaneous recurrent abortion. The pharmaceutical composition comprising MASP-2 inhibitor is useful for treating inflammatory disorders. The present sequence is human MASP-2 CDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The pharmaceutical composition comprising MASP-2 is useful for treating infections caused by microbes such as fungus, yeast,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mannan-binding lectin (MBL) associated serine protease-2 (MASP producing a pharmaceutical composition. MASP-2 is a complement fixing enzyme and involved in lectin pathway of complement act
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2472 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to use of a polypeptide derived from
                                                     201
                                                                                         574
                                                                                                                                                                 514
                                                                                                                                                                                                    161
                                                                                                                                                                                                                                        457
                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                397
                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                       337
                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                             277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No . .
                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37
                                TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGly
                                                                                                                                                                                 GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                         GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                        SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                 LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                 GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC
                                                                                                                                                                                                                                        GAGTGCCAGGTGGCCCCGGGAGAGGCGCCCACCTGCGACCACCACCACCACCTG
                                                                                                                                                                                                                                                                                                                TACTCCAACGAGAAGCCGTTCACGGGGGTTCGAGGCCTTCTATGCAGCCGAGGACATTGAC
                                                                                                                                                                                                                                                                                                                                                                                         CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGAGAGCACAGACACGGAGCGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGTGGCCTGAACCTGTGTTCGGGCGCCTTGCCATCCCCCGGCTTTCCCAGGGGAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCTCGGTGGCCACCCCCTTAGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.55e-296
3738.50
99.85%
99.85%
99.48%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627 A; 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                617 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                583 T;
```

180

200 573 513 160 456

220 633

693

140

120

336

396

100

80

216

276

60 156 40

```
Š
                                                                                        ð
                                                                                                           В
                                                                                                                         δÃ
                                                                                                                                       밁
                                                                                                                                                        Š
                                                                                                                                                                        В
                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
Š
                 밁
                             õ
                                              밁
                                                                            망
                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                           1474
                                                                                                                                                                        1414
                                                                                                                                                                                                                                                                                                                                   1114
                                                                                                                                                                                                                                        1294
                                                                                                                                                                                                                                                                                                      1174
                                                                                                                                                                                                                                                                                                                                                                   1054
                                               1654
                                                                              1594
                                                                                                            1534
                                                                                             521
                                                                                                                           501
                                                                                                                                                          481
                                                              541
                                                                                                                                                                                          461
                                                                                                                                                                                                         354
                                                                                                                                                                                                                        441
                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                     401
                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                 341
                                                                                                                                                                                                                                                                                                                                                                                                 994
                                                                                                                                                                                                                                                                                                                                                                                                                 321
                                                                                                                                                                                                                                                                                                                                                                                                                                934
                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                            ThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnVal
                                                                                                                                                                                                                                      GluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsn
                                                                                                                                                 AlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGly
                                                                                                                                                                                                                                                                                                            ThrGlyProGlyValThrThrTyrLysalaValILeGlnTyrSerCysGluGluThrPhe
                                                                                                                                                                                                                                                                                                                                           CysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIle
                                                                                                                                                                                                                                                                                                                                                                          LeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
LeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAla
                                                                            GAAGGTTATACTCATGATGCTGGCTTTGACAATGACATAGCACTGATTAAATTGAATAAC
                                                                                                                                         GCTGCTCATGCCGTCTATGAGCAAAAAACATGATGCATCCGCCCTGGACATTCGAATGGGC
                                                                                                                                                                                                                                                                                                    ACAGGTCCTGGAGTGACCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACCTTC
                                                                                                                                                                                                                                                                                                                                   TGCAGCATTGTTGACTGTGGCCCTCCTGATGATCTACCCAGTGGCCGAGTGGAGTACATC
                                                                                                                                                                                                                                                                                                                                                                 CTGAAATCCTTTACTGCAGTTTGTCAGAAAGATGGATCTTGGGACCGGCCAATGCCCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTCCCTACGACTTTCTCAAGATTCAAACAGACAGAGAAGAACATGGCCCCATTCTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCAGTGTCATTCTGGACTTTGTGGAGTCCTTCGATGTGGAGACACACCCTGAAACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu
                                                                                                                                                                                       480
                                                                                                                                                                                                                       460
                                                                                                                                         1533
                                                                                                                                                                                                                                                                                     420
600
                                              1713
                                                                                                           1593
                                                                                                                         520
                                                                                                                                                                        1473
                                                                                                                                                                                                       1413
                                                                                                                                                                                                                                                      440
                                                                                                                                                                                                                                                                      1293
                                                                                                                                                                                                                                                                                                   1233
                                                                                                                                                                                                                                                                                                                   400
                                                                                                                                                                                                                                                                                                                                   1173
                                                                                                                                                                                                                                                                                                                                                                 1113
                                                                                                                                                                                                                                                                                                                                                                                                1053
                                                                                                                                                                                                                                                                                                                                                                                                                               993
                                                                                                                                                                                                                                                                                                                                                                                                                                                              933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          753
                                                            560
                                                                            1653
                                                                                            540
                                                                                                                                                         500
                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                              320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260
```

```
RESULT 2
AAS853
XX AAS853
XX AAS85
XX AAS85
XX AAS85
XX AAS85
XX BOM
XX Huma
XX Food
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dp
The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity.
                                                                                                                                                                                                                                                                                                                                                                                                       New isolated polynucleotide and encoded polypeptides, undiagnostics, forensics, gene mapping, identification of responsible for genetic disorders or other traits and to biodiversity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1774
                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-MAR-2000; 2000US-0540217.
23-AUG-2000; 2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAS85321;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAS85321 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200175067-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       food
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    supplement;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAGTGAAACAGAGGGGGTTTGTGGGGAGGAATAGTGTCCTGGGGTTCCATGAATTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGGAAGCAGGTCAGTATGGAGTCTACACAAAAGTTATTAACTATATTCCCTTGGATCGAG
                                                                                                                                                                                                                                                                                                                                            1; SEQ ID No 21125; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  chromosome mapping; gene mapping; gene therapy; upplement; medical imaging; diagnostic; genetic of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG21134.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HYSEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             novel human diagnostic protein #21125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              port dule
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВР
                                                                                                                                                                                                                                                                                                                                                                                                                            ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    mutations
                                                                                                                                                                                                                                                                                                                                                                                                                            assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
```

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9999999999888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess blodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. AAS64197-AAS94564 represent novel human diagnostic coding sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
2936
                                                         2876
                                                                                                                  2816
                                                                                                                                                                           2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity:
                                                                                                                                                                                                                                   2696
                                                                                                                                                                                                                                                                                          2636
                                                                                                                                                                                                                                                                                                                                                                                                          2516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2456
                            243
                                                                                    223
                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                               123
                                                                                                                                              203
                                                                                                                                                                                                                                                               163
                                                                                                                                                                                                                                                                                                                       143
                                                                                                                                                                                                                                                                                                                                                    576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThr
                                                                     ValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCysPro
                                                                                                                              ArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSer
                                                                                                                                                                                       LeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrPro
                                                                                                                                                                                                                                                PheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                      LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACTTCGACCTGGAGCTCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGCTCGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGGAGCGGCGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTACTTCACC
TACGACTTTCTCAAGATTCAAACAGACAGAGAAGAACATGGCCCATTCTGTGGGAAGACA
                                                       GTCATTCTGGACTTGTGGAGTCCTTCGATGTGGAGACACCCCTGAAACCCTGTGTCCC
                                                                                                                CGGCCGTATCCCAAACTCTCCAGTTGCACTTACAGCATCAGCCTGGAGGAGGGGTTCAGT
                                                                                                                                                                          CTGTGCTCCGGCCAGGTCTTCACCCAGAGGTCTGGGGGAGCTCAGCAGCCCTGAATACCCA
                                                                                                                                                                                                                                 TTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGCTCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                        AAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGACTACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAAGGTGCTGGCCACGCTGTGCGGGCAGGAGGAGCACACACGGAGCGGGCCCCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-686) x AAS85321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BP; 848 A; 846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.95e-122
1617.00
100.00%
100.00%
43.03%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-3106)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       798 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       614 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3106
294
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       other;
                                                                                                                                                                                                                                                                                                                                                                            142
2995
                           262
                                                       2935
                                                                                                                2875
                                                                                                                                                                        2815
                                                                                                                                                                                                                                 2755
                                                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                                                                         2695
                                                                                                                                                                                                                                                                                                                      162
                                                                                                                                                                                                                                                                                                                                                 2635
                                                                                                                                                                                                                                                                                                                                                                                                        2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2275
                                                                                                                                                                                                     202
```

δÃ

δÃ 망

Qy 밁 Ş Qy

δÃ Ъ QΥ DЬ Qy Ъ Qy 8

δÃ Вþ

```
RESULT 3
AAH43512
Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                             Yue H, Lu DA
Au-Young J,
Tang YT, Buz
Hafalia A, I
                                                        The sequences given in AAH43512-22 encode novel human proteases PRTS-1 to -11. These proteases can be administered in pharmaceutical compound for the treatment of diseases or conditions associated with decreased expression of functional protease. Disorders which can be treated include gastrointestinal (peptic esophagitis, indigestion and gastritis), cardiovascular (hypertensive heart disease, myocardial infarction), autoimmune/inflammatory (rheumatoid arthritis), cell
         proliferative (arteriosclerosis, cancers), epithelial (eczema), neurological (Huntington's disease), and reproductive (endometriosis) disorders. The protein encoded by this sequence shows homology with the human precursor of P100 serine protease of Ra-reactive factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; protease; PRTS; gastrointestinal disorder; peptic esophagitis; indigestion; gastritis; cardiovascular disorder; reproductive disorder; hypertensive heart disease; myocascular infarction; autoimmune disorder; inflammatory disorder; rheumatoid arthritis; cell proliferative disorder; arteriosclerosis; cancer; epithelial disorder; eczema; endometriosis;
                                                                                                                                                                                                  New polypeptide for treating autoimmune disorders, compris
                                                                                                                                                                                                                                                                                                                                                                                                         17-MAR-2000; 2000US-190708P
30-MAR-2000; 2000US-193182P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3056
                                                                                                                                                                                        polynucleotides
                                                                                                                                                                                                                                           P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                14-APR-2000;
20-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neurological disorder; Huntington's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAH43512 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                             16-MAR-2001; 2001WO-US08441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200171004-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                       2001-611509/70.
                                                                                                                                                                 5
                                                                                                                                                                                                                                           AAB47559
                                                                                                                                                                                                                                                                                                                                            INCYTE
                                                                                                                                                                                                                                                                             J, Bandman O, Lal
Burford N, Baughn
A, Lu Y, Patterson
                                                                                                                                                              Page 122-23; 129pp;
                                                                                                                                                                                                                                                                                                                  DAM,
                                                                                                                                                                                                                                                                                                                                                                   2000US-193182P.
2000US-197086P.
2000US-199022P.
2000US-200227P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protease
                                                                                                                                                                                                                                                                                                                                            GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers 86..2272
                                                                                                                                                                                                                                                                                                      Policky JL,
dman O, Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                   reating gastrointestinal, cardiovascular comprises novel human proteases (PRTS)
                                                                                                                                                                                                                                                                                                                                            INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3863
                                                                                                                                                                                                                                                                             C; MR,
                                                                                                                                                              English.
                                                                                                                                                                                                                                                                                         Delegeane AM, 7
P, Borowsky ML,
MR, Nguyen DB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease; ss
                                                                                                                                                                                                                                                                                                                 Tribouley CM,
                                                                                                                                                                                                                                                                                         Gandhi
Yao MG,
                                                                                                                                                                                                                                                                                                       Hillman
                                                                                                                                                                                                                and
                                                                                                                         compounds
                                                                                                                                                                                                                                                                                                                   FA;
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
  Ş
                               В
                                                     Q
                                                                                  В
                                                                                                          δ
                                                                                                                                         В
                                                                                                                                                               δ
                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2 (1-686) x AAH43512 (1-3863)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NO :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              446
                                                                                                                                            908
                                                                                                                                                                      240
                                                                                                                                                                                                 746
                                                                                                                                                                                                                                                       989
                                                                                                                                                                                                                                                                                                                                                                                                                         506
                                                                                                                                                                                                                                                                                                                                                                                                                                                    140
     300
                                                                                                                                                                                                                           220
                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                  566
                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr
:::||||||::::||
ACCGTGGAGCTAAACAATATGTTTGGCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
                                                                                                                                                                                                                                                                  GluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlu
                                                                                                                                                                                                                                                                                                                                                             CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                                  GAGAGAAAGCCCCAGAACCCATCAGCACCCAGAGCCACAGTGTCCTGATCCTGTTCCAT
                                                                                                                                                         LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                             GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTGAGGACCATCCTGAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                    GACGAGTGCAAGGAGGAGGAGGAGGAGCTGTCCTGTGACCACTACTGCCACAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                   AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArqSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGACAACTCGGGAGAGAACCGGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                               ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro
                                                                                                             GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                                                                                         CCCTGCCCCTATGACTACATCAAGATCAAAGTTGGTCCAAAAGTTTTGGGGGCCTTTCTGT
                                                                                                                                                                                                                       GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                    GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                                                                                                         CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCCCGGCCAGGAGGTGGTCCTCTCCCCTGGCTCCTTCATGTCCATCACTTTCCGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACTTCATGCACTTCAACTTGGAATCCTCCTACCTTTGTGAATATGACTATGTGAAGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGTGGCTGCTTCTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCCTTCAGCCCAC
                                                                                                                                                                                                                                                                                                         TGCCGAGTGGAGTGACAACCTCTTCACTCAAAGGACTGGGGTGATCACCAGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.41e-121
1608.00
60.36%
43.00%
42.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              င့
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3863
307
124
245
38
                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        205
                                                                                                             279
                                                                                                                                                                   259
                                                                                                                                                                                                                                                  745
                                                                                                                                                                                                                                                                            219
                                                                                                                                                                                                                                                                                                         685
                                                                                                                                                                                                                                                                                                                                     199
                                                                                                                                                                                                                                                                                                                                                               625
                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
              õ
                                                                  Q
                                                                                               В
                                                                                                                       QΥ
                                                                                                                                                    Ъ
                                                                                                                                                                             Š
                                                                                                                                                                                                          B
                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                               Ър
                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                             ρ
                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1106
                                                                                                                                                                                                                                                                                                                                                                            1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                             487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                   AATGTGACAGTGGATGAGATCATCAGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                   ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAla :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGAGTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheTyrThrMet---LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp 418
:::||| ||| ||| ||| ||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCAAAGACCAAGTGCTCGTCAGCTGTGACACAGGCTACAAAGTGCTGAAGGATAATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeu
AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                         ---GGCAATTACAGCGTCACGGAGAACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAA
                                                         TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys 626
                                                                                                                                                                                                          GAAGGC - - - CCGGCCCCCCACATGCTGGGGCCTGGTGGCCGGCTGGGGCATCTCCAATCCC
                                                                                                                                                                                                                                  GluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArg
                                                                                                                                                                                                                                                              CTCCACCCAGACTTC---AACATCCAAAACTACAACCACGATATAGCTCTGGTGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                            GluGlnLysHisAspAlaSerAlaLeuAspIle---ArgMetGlyThrLeuLysArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCCCGTGGCAGGCCCTGATAGTGGTGGAGGAGACACTTCGAGAGTGCCAAATGACAAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCTCCCTGCCAAGTCTGGTCAAGAGGATCATTGGGGGCCGAAATGCTGAGCCCGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgThrThrGlyGly------ArgIleTyrGlyGlyGlnLysAlaLysProGlyAsp 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAATAAAGTATTGGGGAGAAGCCTACCCACCTGCCTTCCAGAGTGTGGTCAGCCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTGTAAAATTGTAGACTGTAGAGCCCCAGGAGCAGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATGGACACATTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                               TATGTCAAGTTACCCGTGGTGCCTCACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG
                                                                                                                                                                                                                                                                              AsnAsnLysValVallleAsnSerAsnIleThrProIleCysLeuProArgLysGluAla
                                                                                                                                                                                                                                                                                                                                                                          GGCTTGCATGATGTGCGAGACAAATCGGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCCAGCGTAGAGACACCACGGTGATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTGGGAGTGGGGCCCTGCTCTCTGCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCGC
                                                                                                                                                                             ----LeuAlaArgAsnLeuMet
```

1999

646

1939

606

1645 505

538

1585

1525

1465

468

438

1405

399

379

1165 359 1105

```
DEXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAF83985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
           multiple sclerosis, myasthenia gravis, epilepsy, rheumatoid arthritis, vasculitis, autoimmune hemolytic anemia, Crohn's disease, asthma, diabetes, psoriasis, multiple myeloma, atherosclerosis etc. It is also useful for inhibiting activation of C4 complement by inhibiting the MBL pathway, inhibiting MASP-2 activity, inhibiting or treating an inflammatory condition related to complement activation through MBL/MASP
                                                                                                         and directly activates complement system through binding to MBL. The MASP-3 polypeptides, polynucleotides and modulators are useful for preparing a pharmaceutical composition for treating aberrant MASP-3 activity such as infections, cancer, MBL-deficiency, disorders of the immune system and reproductive system. The MASP-3 polypeptide is also used for treating diseases associated with human immunodeficiency virus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2177
                                                                                                                                                                                                     The invention relates to a mannan-binding lectin (MBL) associated serine protease-3 (MASP-3) polypeptide. MASP-3 exerts an inhibitory effect on the complement activation particularly when bound to MBL/MASP-2 complexes
                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                   ovel pure mannan-binding lectin associated serine protease polypeptides and polynucleotides encoding the protein, used treating recoxygenated ischemic tissues, mannon-binding lectideficiency, multiple sclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
   complexes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-DEC-1999; 99DK-0001721
21-JUL-2000; 2000DK-0001126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (JENS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200140451-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antiatherosclerotic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antiarthritic; antianemic; antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mannan-binding lectin associated serine protease-3; MASP-3; MBL; hannan-binding lectin; complement; infection; cancer; cytostatic; fimmunomodulator; neuroprotective; anticonvulsive; antirheumatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAF83985 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lannan-binding
                                                                                                                                                                                                                                                                                                                                                                                       PSDB;
                                                                                                                                                                                                                                                                                                                                                                                     2001-374820/39
DB; AAB85060.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TATGGAGTCTACACAAAGGTCTCCAATTACGTGGGCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TrpPheValGlyGlyIleValSerTrpGlySer - - - MetAsnCysGlyGluAlaGlyGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACACGTGCCTTGGAGATAGCGGTGGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGC
                                                                                                                                                                                                                                                                          18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JENSENIUS J
THIEL S.
                                                                                                                                                                                                                                                                                                                                                                                                                                   JC,
                                                                                                                                                                                                                                                                       Page 88-96;
   MASP-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-DK00659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protease MASP-3 encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                   Thiel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 91..2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product=
is also useful for treating an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                   s
                                                                                                                                                                                                                                                                   99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      מ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "MASP-3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antipsoriatic; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                   used for
                                                                                                                                                                                                                                                                                                                                     for
   condition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2116
```

```
Q
                                                      Вb
                                                                              δã
                                                                                                             밁
                                                                                                                                    δÃ
                                                                                                                                                                밁
                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSSSSS
                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-874-198-2 (1-686) x AAF83985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            resulting from an autoimmune condition after acute myocardial infarction or brain ischemia. It is also useful for treating an individual suffering from a disorder resulting from an imbalanced cytokine network. The present sequence represents a DNA encoding a human MASP-3 polypeptide.
                           260
                                                      811
                                                                                                                                     220
                                                                                                                                                                  691
                                                                                                                                                                                                                        631
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                               571
                                                                                                                                                                                                                                                                                                         160
                                                                                                                                                                                                                                                                                                                                    511
                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                              391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.
                                                                                                             751
                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAGAGAAAGCCCCAGAACCCATCAGCACCCAGAGCCACAGTGTCCTGATCCAT
                        GlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheVal
                                                                      LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                         GlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                LeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGTGATTCAGAGGTGACTTGGAATATCACTGTCCCAGATGGGTTTCGGATCAAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGTGGCTGCTTCTATTATGCTCTGTGCTTCTCCCTGTCAAAGGCTTCAGCCCAC
                                                                                                             GGTTTCATGGTCAACCTGCAGTTTGAGGACATATTTGACATTCAGGACCATCCTGAGGTG
                                                                                                                                                                  GACTTCCCAAACCCTTACCCCAAGAGCTCTGAATGCCTGTATACCATCGAGCTGGAGGAG
                                                                                                                                                                                                                                               CysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerPro
                                                                                                                                                                                                                                                                               ATTGGCGGCTACTACTGCTCCTGCCGCTTCGGCTACATCCTCCACACAGACAACAGGACC
                                                                                                                                                                                                                                                                                                                                    GACGAGTGCAAGGAGGAGGAGGAGGAGGTGTCCTGTGACCACTACTGCCACAACTAC
                                                                                                                                                                                                                                                                                                                                                                                         GATTTCTCCAATGAGGAGCGTTTCACAGGCTTTGATGCCCACTACATGGCTGTGGATGTG
                                                                                                                                                                                                                                                                                                                                                                                                      AspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAACTGAGGACCAGGTGCTGGCAACCTTCTGTGGCAGGGAGACCACAGACACAGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACTTCATGCACTTCAACTTGGAATCCTCCTACCTTTGTGAATATGACTATGTGAAGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     {\tt AlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeu}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCGTGGAGCTAAACAATATGTTTGGCCAGATCCAGTCGCCTGGTTATCCAGACTCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysTrpPro---GluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyr
                                                                                                                                                                                                                        TGCCGAGTGGAGTGCAGTGACCACCTCTTCACTCAAAGGACTGGGGGTGATCACCAGCCCT
                                                                                                                                                                                                                                                                                                                                                  AspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   952 A; 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.44e-121
1600.00
60.22$
42.72$
42.58$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-3895)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     987 G; 888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3895
305
125
246
38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          suffering
                           279
                                                                                259
                                                                                                                                      239
                                                                                                                                                                                                                        690
                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                               630
                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                              159
                                                                                                                                                                                                                                                                                                                                                                                         510
                                                                                                                                                                                                                                                                                                                                                                                                                                              450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39
                                                      870
                                                                                                                                                                                             219
                                                                                                                                                                                                                                                                                                                                  570
                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                  750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               270
```

```
1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro
::: :::||| ||| ||||||||:::||| :::|||
Tyr \texttt{ProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys}
                                                       TATGTCAAGTTACCCGTGGTGCCTCACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG
                                                                                                     TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                             AATGTGACAGTGGATGAGATCATCAGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAG
                                                                                                                                                                                                                                                                GAAGGC---CCGGCCCCCCACATGCTGGGCCTGGTGGCCGGCTGGGGCATCTCCAATCCC
                                                                                                                                                                                                                                                                                                                                                                        CAGGAGCCTGTGCCCCTGGGACCCCACGTTATGCCTGTCTGCCTAGCCAAGGCTTGAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                       AsnAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCCACCCAGACTTC---AACATCCAAAACTACAACCACGATATAGCTCTGGTGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCTTGCATGATGTGCGAGACAAATCGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTG 1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCCAGCGTAGAGACACCACGGTGATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GluGlnLysHisAspAlaSerAlaLeuAspIle---ArgMetGlyThrLeuLysArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGGGAGTGGGCCCTGCTCTGCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCCGTGGCAGGCCCTGATAGTGGTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTCCCTGCCAAGCCTGGTCAAGAGGATCATTGGGGGGCCGAAATGCTGAGCCTGGCCTC 1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgThrThrGlyGly-----ArgIleTyrGlyGlnLysAlaLysProGlyAsp 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAATAAAGTATTGGGGAGAAGCCTACCCACCTGCCTTCCAGAGTGTGGTCAGCCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSerAla 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATTACAAGATGCTCAACAATAACACAGGTATATATACCTGTTCTGCCCAAGGACTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PheTyrThrMet----LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTACAAGGAACAACCTCACCACATACAAGTCTGAGATCAAATACTCCTGTCAGGAGCCC 1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCTGTAAAATTGTAGACTGTAGAGCCCCAGGAGGCTGGAACACGGGCTGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGATGGACACATTCCAGATTGAGTGTCTGAAGGATGGGACGTGGAGTAACAAGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCCAGAGCTACAGCCTCCTGTCCATGGGAAAATCGAGCCCTCCCCAAGCCAAGTATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGACAACTCGGCAGAGAACCGGGGCTGGAGGCTCTCATACAGGGCTGCAGGAAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnPro:::||| ||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerProHisTyrThrGlnAlaTrpSerGluAla------ValPhe 518
                                                                                                                                                                                                              --------LeuAlaArgAsnLeuMet 586
  626
                                                                                                                                                             1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1050
                                                                                                                                                                                                                                                                                                                    578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                468
```

В

Оу Оу Оу Оу

5 B 5

δÃ

В

δÃ

 Š

B

В

```
AAX24297
           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
the identity of a nucleic acid. The CIR cDNA was digested with BspHI and EcoRI to produce a 318 bp fragment. This was isolated and subjected to PCR amplification using primers J (see AAX24298) or R (see AAX24299), which are complementary to the EcoRI and BspHI recognition sites of clr. The electrophoretic banding patterns and mobilities of the amplification products produced by J-primer and R-primer PCRs were used to generate electropherograms. Utilising the results obtained in this first, GeneCalling (TM), PCR reaction, sequence confirmation was performed by oligo-poisoning. 2 poisoning primers (see AAX24300 and AAX24301) were generated which has sequences corresponding to the last 6 nucleotides of the J and R primers, respectively, followed by 16 nucleotides corresponding to
                                                                                                                                                                                                                                                                                                                           This is the nucleotide sequence of human complement component 1, subcomponent r (clR) cDNA generated from clR poly(A)+ mRNA. It will not be a subcomponent r (clR) cDNA generated from clR poly(A)+ mRNA. It will not be a subcomponent r (classification of confirming the classification of classification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Detection and confirmation of a nucleotide sequence - by primer hybridisation to known terminal sequences and unidentified internal sequences, used to indicate, e.g. risk of neuroblastoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-167456/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             c1R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GeneCalling;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAX24297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAX24297 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Fig 4; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Deem MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-FEB-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human complement component 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CURA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9907896-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACACGTGCCTTGGAGATAGCGGTGGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGC 2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---GGCAATTACAGCGTCACGGAGAACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATGGAGTCTACACAAAGGTCTCCAATTACGTGGACTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rothberg JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement component 1 subcomponent r; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                quantitative expression analysis; oligo-poisoning;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-0054887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98WO-US16548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag" a
/note= "BspHI recognition sequence"
2187..2192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 1875..1880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= b
/note= "EcoRI recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Simpson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      subcomponent r (clR) cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           дΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2223
                                                                                                                                                                                                                                                                                                                                                             It was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            646
                                                           had
```

```
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-874-198-2 (1-686) x AAX24297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         possessing putatively identified sequences which have been predicted to generate observed GeneCalling signals, are actually present within the sample generating the signal. It provides rapid, economical, quantitative and highly specific determination or classification of DNA sequences, especially genomic DNA or cDNA sequences, in either arrays of single sequence clones or mixtures of sequences such as can be derived from tissue samples, without actually sequencing the DNA. The methods can be used to detect the presence and expression of certain genes or their particular alleles, which can be indicative of risk factors for diseases, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Huntington's disease and ataxia telangiectasia, as well as several cancers, e.g. neuroblastoma. The methods can also be used to determine the presence and classification of foreign pathogens which are difficult or impossible to culture in vitro, but express their own genes. They may also be used to assess disease regression, and for pharmogenomic analysis of drug action and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the clR cDNA sequence. PCR amplification was performed, and electropherograms were generated. An approximate 3-fold reduction in signal corresponding to the 318 bp fragment was observed, thus confirming the nucleic acid identity derived from the original GeneCalling methodology. The general method of the invention provides direct conformation that nucleic acid fragments,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                          406
                                                                                                                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                                                                                                                     346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        progression, and efficiency.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64
                                                     GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                          CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                                                                                                                                                                  GluAlaPheTyrAlaAlaGluAspIleAspGluCys----GlnValAlaProGlyGlu
                                                                                                                                                                                                                                                                                                                          ThrPheArgSerAspTyrSerAsnGluLysPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                                                                     -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                    ACCTTCCACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                               CCACTGGGCAACCCCCGGGAAAGAAGGAATTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                    AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys------GlySerValAla 15
SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8.76e-106
1412.00
56.73%
41.75%
37.57%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCCTCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-2492)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         532
                                                                                                                                                                                                                                                                                                                             -----PheThrGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Т;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2492
301
108
248
64
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         other;
                                                                                                       165
                                                                                                                                                                                                                                                                                                                                                                                  405
                                                                                                                                                                                                                                                                                                                                                                                                                                  115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    285
```

Qy В Q В Qy

Вþ

B Qy Вр Qy В Qy Дb Qy В Qy

δõ

```
Š
                                                                                                                       밁
                                                                                                                                                        Š
                                                                                                                                                                                           Вb
                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                         ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                           1483
                                                                                                                                                                                                                                                                   1423
                                                                                                                                                                                                                                                                                                                                       1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1126
                                                                                                                       1543
                                                                                                                                                                                                                                                                                                                                                                                                           1306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1066
                                                                                                                                                                                                                                                                                                                                                                                                                                              405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 186
ProHisTyrThrGlnAlaTrpSerGluAlaValPheILeHisGluGlyTyrThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                           ACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGACACAGGGCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGCTACCTGCAAGCCAAGGCTACCAGCTCATAGAGGGGGAACCAGGTGCTGCATTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTACAGATICTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                   AACGCCTCTTTGGATGTTCCTGGGCCACACAAATGTGGAAGAGCTCATGAAGCTAGGA
                                                                                                                                                        AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                                                                                                                                                                             CCCGTGAACCCCGTGGAACAGAGGCAGCGCATAATCGGAGGGCAAAAAGCCAAGATGGGC
                                                                                                                                                                                                                                                                                    ---LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                       TGGAAGAATGAACAGAAGGGAGAGAG---ATTCCTCGGTGCTTGCCAGTGTGTGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACCAATGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         {\tt ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                       GACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCAAGGAACACGAAGCGCAAAGC
                                                                                                                                                                                                                              AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                           Val------AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                  -SerAlaLeuAspIleArgMetGly--
                                                                                                                                                                                                                                                                                                                                                        -ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly---
                                                                                  ThrLeuLysArgLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        384
                                                                                                                                                                                                                                                                 1482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1005
                                                                                                                                                                                                                                                                                                                                                                                                                                              417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1125
                                                                                                                       1602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 205
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
XAXEX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABA83114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2155
                                                                                                                                                                                                                                                                                                        mucinous cystadenoma; borderline mucinous tumour; endometrioid carcinoma; undifferentiated carcinoma; clear cell adenocarcinoma; cystadenofibroma; adenofibroma; Brenner tumour; serial analysis of gene expression; SAGE; immune response pathway; cell proliferation regulation; protein folding;
                                                                                                                                                                                                                                                                                                                                                                                 pvarian tumour marker gene; human; overexpression; upregulation;
epithelial tumour; cancer; diagnosis; prognosis; disease monitoring;
identification; serous cystadenoma; borderline serous tumour;
serous cystadenocarcinoma; mucinous cystadenocarcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1825
                                                                                                                           03-APR-2001; 2001WO-US10947
                                                                                                                                                                                                                                                                                          membrane localised; secreted; therapeutic target;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-FEB-2002
                                                   (USSH ) US DEPT HEALTH & HUMAN SERVICES
                                                                                        03-APR-2000; 2000US-194336P
                                                                                                                                                                                                  WO200175177-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Complement component 1 r ovarian tumour marker gene, SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABA83114 standard; DNA; 2493 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG
                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGCTGCTGGGGC---ATCGGG
                                                                                                                                                                                                                                                                       therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProProTyrProArgGlySer---------ValThrAlaAsnMetLeuCysAla 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCTG 1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATCACCCCATCCGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCAGCAGGGGC-----TATGGCTTCTACACCAAAGTGCTCAACTACGTGGACTGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGATAGTGGGGGGCGTTTTTGCAGTA 2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGAGGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTCCCAACCTCCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThr 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ala-----GlyPheAspAsnAspTleAlaLeuIleLysLeuAsnAsnLysValValIle 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2157
               Sherman-Baust CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                           vaccine; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT 1710
               Pizer ES,
             Hough CD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO:65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1881
```

```
mucinous cystadenoma, borderline mucinous tumour, mucinous cystadenoma, borderline mucinous tumour, mucinous cystadenocarcinoma, endometrioid carcinoma, undifferentiated carcinoma, clear cell adenocarcinoma, cystadenofibroma, undifferentiated carcinoma, clear cell adenocarcinoma, cystadenofibroma, undifferentiated carcinoma, clear genes of the invention were identified using SAGE (serial analysis of gene expression) and were found to be overexpressed in a broad variety of ovarian epithelial tumour cells relative to normal ovarian epithelial cells. The marker genes are implicated in immune response pathways, in the regulation of cell proliferation and in protein folding, and many of these are membrane-localised or secreted. In addition to their use as diagnostic and proteins may be used as therapeutic targets for the treatment and prevention of ovarian cancer. Sequences ABAB3081-ABAB3122, ABAB3180, and many of the country ababases of the creatment and prevention of ovarian cancer. Sequences ABAB3081-ABAB3122, ABAB3180, and many of the creatment and prevention of ovarian cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to methods for diagnosing and prognosing ovarian tumours in an individual via the detection and measurement of the expression of ovarian tumour marker genes (ABA83181-ABA83122, ABA83180, ABA83181 and ABA83184) or segments thereof (ABA83123-ABA83129, ABA83181 and ABA83183). The methods of the invention are useful for detecting an ovarian tumour in a patient, for identifying an individual at increased risk for developing ovarian cancer, in prognostic tests for assessing the relative severity of ovarian cancer, in tests for monitoring a patient in remission from ovarian cancer and in tests for monitoring disease status in a patient being treated for ovarian cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The methods can additionally be used to identify a particular tumour as being an ovarian tumour (i.e., an epithelial ovarian tumour selected fro serous cystadenoma, borderline serous tumour, serous cystadenocarcinoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                             prevention of ovarian cancer. Sequen ABA83182 and ABA83184 represent the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer treatment, by measuring expression level of ovarian tumor marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Detecting and identifying ovarian tumor, identifying increased risk for developing ovarian cancer, and determining effectiveness of ovarian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; ABB50288
                                                       invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-626450/72.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23; Page 107; 140pp; English.
                                                                                ovarian tumour marker genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   from
```

Best Local S Query Match: Percent Similarity: Alignment Scores: NO. Similarity: 8.77e-106 1412.00 56.73% 41.75% 37.57% Length: Matches: Mismatches: Indels: Conservative:

Sequence 2493 BP;

619 A;

680 C;

662

G;

532 T; 0 other;

US-09-874-198-2 (1-686) x ABA83114 (1-2493)

Gaps:

0	1 4	03-03-074-130-2 (1-000) X MBMO3114 (1-2493)
Db	64	64 ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT 120
Qy	16	ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe 35
Db	121	121CCCATC
Qу	36	ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr 55
Дb	166	166 CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC 225
Qy	56	{D
ф	226	226 AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT 285
Qy	76	PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr 95
Db	286	286 TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCAACTGGGTTCT 345
Qy	96	96 AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspTle 115

```
Вþ
                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    466
                                                                                                                                                                                                                                                                                                                                                                                                                                                     066 ATTGCTACCTGCAAGCAAGGCTACCAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     346 CCACTGGGCAACCCCCCGGGAAAGAAGAATTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
CCCGTGAACCCCGTGGAACAGAGGCCAGCGCATAATCGGAGGGCAAAAAGCCAAGATGGGC
                 ---LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly ::::::
                                                                        TGGAAGAATGAACAGAAGGGAGAGAAG---ATTCCTCGGTGCTTGCCAGTGTGTGGGAAG
                                                                                            ACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGCACAGGGCATT
                                                                                                                                                                                                                       ValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLys
                                                                                                                                                                                                                                                                                                    GACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACAATGGGA
                                                                                                                                                                                                                                                                                                                           AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly
                                                                                                                                                                                                                                                                                                                                                                          SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                              --AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
                                                                                                                                                                                                                                                              404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     405
                                   454
                                                                                                                                                                                                                                                                                                                                       384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              765
```

В

δõ

Ωy

Ωy

Qy В QΥ В Qy В Qy Qγ

QΥ

```
밁
                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                        Gene; liver cancer; ds; hepatocellular carcinoma; hepatotropic; metastatic liver tumour; cytostatic; expression profile; disease state; disease progression; drug toxicity; drug efficacy; drug metabolism.
                                                                                                                                                                                                                                                                                                                                   2155
                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1543
                                                                                                                                                                      Gene #2256 used to diagnose liver cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1603
                 11-APR-2002
                                               WO200229103-A2
                                                                                                                                                                                                     13-AUG-2002 (first entry)
                                                                                                                                                                                                                                                                     ABN95758 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            455
                                                                                                                                                                                                                                                                                                                                   AAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGATAGTGGGGGGCGTTTTTGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                               TGCAGCAGGGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGC---ATCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---SerAlaLeuAspIleArgMetGly-------ThrLeuLysArgLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCAAAGGAACACGAAGCGCAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProProTyrProArgGlySer------ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTTGATGGGCTATGTCAGTGGCTTCGGGGTCATGGAGGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTCCCAACCTCCTCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ala-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATCACCCCATCCGC------AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT 1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACGCCTCTTTGGATGTTCCTGGGCCACAAATGTGGAAGAGCTCATGAAGCTAGGA 1662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn
                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                 ----TATGGCTTCTACACCAAAGTGCTCAACTACGTGGACTGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1770
                                                                                                                                                                                                                                                                                                                                                                                               2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               492
```

02-OCT-2001;

2001WO-US30589

```
Alignment
Pred No.:
                                                                                                 2
                                                                                                                                          ₽
                                                                                                                                                                     ρy
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                 Ş
                                                                       В
                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-874-198-2 (1-686) x ABN95758 (1-2493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cytostatic activity. The method is useful for diagnosing and detecting the progression of liver cancer, hepatocellular carcinoma and metastatic liver carcinoma in a patient. The method is useful for identifying expression profiles which serve as useful diagnostic markers as well as markers that can be used to monitor disease states, disease progression, drug toxicity, drug efficacy and drug metabolism.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a novel method for diagnosing and detecting trogression of liver cancer, hepatocellular carcinoma or metastatic liumour in a patient, and differentiating metastatic liver cancer from lepatocellular carcinoma in a patient, involving detecting the level cexpression of two or more genes represented in ABN93503-ABN97455 in a tissue sample. The method of the invention has hepatotropic, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; SEQ ID NO 2256; 298pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Diagnosing and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Diagnosing and detecting the progression of liver cancer, hepatocellular carcinoma or metastatic liver tumor in a patient involves detecting the level of expression of two or more genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
0
...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GENE-) GENE LOGIC INC
 406
                                    116
                                                                       346
                                                                                                                                                                                                                226
                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                               76
                                                                                                                                                                                                                                                 56
                                                                                                                                                                                                                                                                                                                       36
                                                                                                                                                                                                                                                                                                                                                                                    16 ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                            MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys------GlySerValAla
                               ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe
                                                                                        AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle
                                                                                                                                      TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                      ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-426119/45
ACCTTCCACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                  CCACTGGGCAACCCCCCGGGAAAGAAGGAATTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                       PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr
                                                                                                                                                                                                                                             ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tissue sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alvares C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-237054P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP; 619 A; 680 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.77e-106
1412.00
56.73%
41.75%
37.57%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peres-Da-Silva
                                                                                                                                                                                                                                                                                                                                                      CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCCTCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            662 G; 532 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vockley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2493
301
108
248
64
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'n
                                                                                                                                                                                                                                                                                                                   55
465
                                                                    405
                                                                                                                                                                         95
                                                                                                                                                                                                              285
                                                                                                                                                                                                                                             75
                                                                                                                                                                                                                                                                                                                                                      165
                                                                                                                                                                                                                                                                                                                                                                                       35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of,
```

```
QΥ
                                                                                                                   밁
                                                                                                                                                    Ş
                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                          1366
                                                                                                                                                                                                                                                                                                                                               1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1126
                                                                                                                                                                                                                                418
                                                                                                                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                                                                                                                     385
                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluAlaPheTyralaAlaGluAspIleAspGluCys------GlnValAlaProGlyGlu
                                                                                                                                                                                                                                                                                          Val-----AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                     CCCGTGAACCCCGTGGAACAGAGGCAGGCGCATAATCGGAGGGCAAAAAGCCAAGATGGGC
                                                                                                                                                                                          TGGAAGAATGAACAGAAGGGAGAGAAG - - - ATTCCTCGGTGCTTGCCAGTGTGTGGGAAG
                                                                                                                                                                                                                            Trp---ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly---
                                                                                                                                                                                                                                                                      ACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGCACAGGGCATT
                                                                                                                                                                                                                                                                                                                                             GTGAACACCTACAAGGCCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCAG
                                                                                                                                                                                                                                                                                                                                                                   ValThrThrTyrLysAlaVallleGlnTyrSerCysGluGluThrPheTyrThrMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACAATGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTGCTACCTGCAAGCCAAGGCTACCAGCTCATAGAGGGGGAACCAGGTGCTGCATTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                         AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
                                                                                                                                                ---LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuLySIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                          1422
                                                                                                                                                                                                                                                                                                                                                                                                                         1245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1005
                                                                                                               1482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1065
                                                                                                                                                                                                                                                                                                                                                                                   404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225
```

þ

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                      LT 8
607
BN95607 standard; DNA;
                                                                                                                                                                                                         Gene; liver cancer; ds; hepatocellular carcinoma; hepatotropic; metastatic liver tumour; cytostatic; expression profile; disease si disease progression; drug toxicity; drug efficacy; drug metabolism
                                                                                                                                                                                                                                                                                                                                                                                                                                       2155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1543
                                                                                                                                                                                                                                                                        Gene #2105 used to diagnose liver cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1882
                                                                                                                                                                                                                                                                                                          13-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1663
                                                02-OCT-2000; 2000US-237054P
                                                                               02-OCT-2001; 2001WO-US30589
                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1603
                (GENE-) GENE LOGIC INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG 2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGATAGTGGGGGGGCGTTTTTGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProProTyrProArgGlySer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGAGGAGGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      {\tt AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTCCCAACCTCCTCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ala-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACGCCTCTTTGGATGTGTTCCTGGGCCACACAAATGTGGAAGAGCTCATGAAGCTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---SerAlaLeuAspIleArgMetGly-----
                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                       2647
                                                                                                                                                                                                                                                                                                                                                                         ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---ThrLeuLysArgLeuSer
                                                                                                                                                                                                                           state;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     544
                                                                          Qy
                                                                                                            g
                                                                                                                                          QΥ
                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                          Вр
                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                      Д
                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x ABN95607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cytostatic activity. The method is useful for diagnosing and detecting the progression of liver cancer, hepatocellular carcinoma and metastatic liver carcinoma in a patient. The method is useful for identifying expression profiles which serve as useful diagnostic markers as well as markers that can be used to monitor disease states, disease progression,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a novel method for diagnosing and detecting the progression of liver cancer, hepatocellular carcinoma or metastatic liver tumour in a patient, and differentiating metastatic liver cancer from hepatocellular carcinoma in a patient, involving detecting the level of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Note: The sequence data for this patent did not form part of the printer specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       expression of two or more genes represented in ABN93503-ABN97455 in a tissue sample. The method of the invention has hepatotropic, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Diagnosing and detecting the progression of liver cancer, hepatocellular carcinoma or metastatic liver tumor in a painvolves detecting the level of expression of two or more
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        drug toxicity, drug efficacy and drug metabolism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No . .
              161
                                                602
                                                                              141
                                                                                                             542
                                                                                                                                             121
                                                                                                                                                                             482
                                                                                                                                                                                                           101
                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                        362
                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                                                                                                     254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   203
                                                                                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
              GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                            GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                              SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla 100
                                                                                                                                                                                                                                                                                                                          PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                          AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                GAATGCACAGATTTTGTA----GATGTCCCT----TGTAGCCACTTCTGCAACAATTTCATT
                                                                                                             TTTTCCAATGAAGAGCGTTTTACGGGGTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                                                                                             CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                                           ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                          TCAGGAGACACTGAAGAAGGGAGGCTCTGTGGACAGAGGAGCAGTAACAATCCCCACTCT
                                                                                                                                                                                                                                                                                                        TTCACCCATCTGGACATTGAGCTGTCAGAGAACTGTGCGTATGACTCAGTGCAGATAATC
                                                                                                                                                                                                                                                                                                                                                                       AGTGAGGTAGAAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT
Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tissue sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alvares C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ID NO 2105; 298pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                     -ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.64e-91
1238.00
52.78%
38.23%
32.94%
24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             693 A; 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peres-Da-Silva S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-2647)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ი
ე
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             672
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ή,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2647
268
102
283
48
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  patient,
re genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of the printed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĺη
```

60

361

301 40

421 80

160

601

180

120 481

```
1718
                                                                                                                                                                                                                                                                1544
                                                                                                                                                                                                                                                                                                                                                     1484
                                                                                                                                                                                                                                                                                                                                                                                                                                          1424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1016
                                                                                                                                                                                                                       475
                                                                                                                                                                                                                                                                                                          455
                                                                                                                                                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                    AACTTCCCCTGGCAAGTC---TTCTTTGACAACCCATGGGCTGGTGGAGCGCTCATTAAT
                                                                                                                                                                                                                                                                                        AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
:::|||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGCCCTGCCCT----AAGGAAGACACTCCCAATTCTGTTTGGGAGCCTGCGAAGGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheValThrAspGluSerGlyAspHisThrGlyTrpLySileHisTyrThrSerThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                       GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT---
                                                                                                                                                                        GAGTACTGGGTGCTGACGGCTGCTCATGTTGTGGAGGGAAACAGGGAGCCAACAATGTAT
                                                                                                                                                                                                                                                                                                                                                CCCAGAGAACCCTTTGAAGAAAAACAGAGGATAATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                       SerAlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGCCATATTACTACATGGAAAATGGAGGAGGTGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAACTGAAATGTCAACCTGTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTGTTGGTGCAACATCTTTCTATTCGACTTGTCAAAGCAATGGAAAGTGGAGTAATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATGTCTTTAGAGATGTGGTGCAGATAACCTGTCTGGATGGGTTTGAAGTTGTGGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tyr IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCAAACTGATCTAACAGGGCAAAAAAAGGGCTGGAAACTTCGCTATCATGGAGATCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTCATGGATTCCCTGGGCCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAAACTGCCTTGACAGTTTAGTTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluH1sGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCAAGTGGTGGTGACCTTGCGGAGAGAGATTTTGATGTGGAAGCAGCTGACTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheSerValIleLeuAspPhe···ValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATCCCAAACCATATCCAGAGAACTCAAGGTGTGAATACCAGATCCGGTTGGAGAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGGTTACTTCTGCTCCTGCCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
                                                                                                                           -AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GACCCAGAGAGCACTTTGTTTGGTTCTGTCATCCGCTACACTTGTGAG
GAGCATGTGTTTATTCATCCGGGATGGAAGCTGCTGGAAGTC
  1759
                                                                                                                                                                                                                                                           1600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                        1660
                                                                                                                                                                                                                                                                                                        474
                                            523
                                                                                     1717
                                                                                                                                                                                                                                                                                                                                                                                           454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             200
```

δõ

밁

50 A 03

В

Qy

망

δδ

9d 50 Ş

밁

64 65 65 65

밁

õ

B

B

В

망

S B

8 6 8 6 8 6 8 64 PP OA

```
RESULT 9
AAC77788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                Human; cancer associated gene; cancer antigen; detection; cancer; diagnosis; cytostatic; proliferative; vulnerary; immunomodulator; antidiabetic; antiasthmatic; antitrheumatic; antibacterial; cardiant; antiinflammatory; antithyroid; antiallergic; antibacterial; cardiant; dermatological; neuroprotective; thrombolytic; coagulant; nootropic; vasotropic; antipsoriatic; antiangiogenic; gene therapy; inflammation; immune disorder; haematopoietic cell disorder; autoimmune disorder; allergic reaction; graft versus host disease; organ rejection; haematopoietic; cardiovascular disorder; infection;
WPI; 2000-587533/55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC77788 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000
                                                                                                                   08-MAR-2000;
                                                                                                                                                 21-SEP-2000
                                                                                                                                                                               WO200055350-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                       08-FEB-2001
                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrGluLysProProTyrProArgGlySer-----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGATCCCAATGACAAGACCAAATTCTACGCAGCTGGCCTGGTGTCCTGGGGGCCC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAsp---SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGAGGAGAGAG----GGCATGGATAGCTGTAAAGGGGACAGTGGTGGGGCCCTTTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGAGAAACCCACAGCAGATGCAGAGGCCTATGTTTTCACTCCTAACATGATCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANAATGGGACCCACCGTCTCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                            CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGATGGGGACCTGGGACTGATCTCAGGCTGGGGCCGAACAGAGAAGAGAGATCGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                        cancer associated gene sequence SEQ ID NO:182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       679
                             Ruben SM,
                                                                                                                   2000WO-US05882
                                                                                                                                                                                                                                       disease; drug screening; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGTGTGGGACCTATGGGCTCTACACACGGGTAAAGAACTATGTTGACTGG
                                                                                     99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                562
```

AAB43579

```
В
                                                                                                                                                                                   Qy
                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33333x3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antiinflammatory; antithyroid; anntiallergic; antibacterial; antiviral; antiinflammatory; antithyroid; anntiallergic; antibacterial; antiviral; dermatological; neuroprotective; cardiant; thrombolytic; coagulant; nootropic; vasotropic; antipsoriatic and antiangiogenic. The polynucleotides and polypeptides can be used for preventing, treating or ameliorating medical conditions and diagnosing pathological conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Polynucleotides, polypeptides, antibodies, agonists and antagonists from the present invention may be used to treat immune disorders by activating or inhibiting the proliferation, differentiation or mobilisation of mnune cells, to treat disorders of haematopoietic cells, autoimmune isorders, allergic reactions, graft versus host disease and organ rejection, modulate haemostatic or thrombolytic activity, modulate inflammation, cancers, cardiovascular disorders, neurological disease and bacterial or viral infections. The peptides, nucleotides, antibodies, agonists and antagonists may be also be used in drug screens. AAC78449 to AAC78457 and AAB44240 represent sequences used in the exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2725 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        include: cytostatic; proliferative; vulnerary; immunomodulator;
antidiabetic; antiasthmatic; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAC77607 to AAC78448 encode the human cancer associated proteins given in AAB43398 to AAB44239. The proteins can have activities based on the tissues and cells the genes are expressed in Example of activities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel isolated nucleic acids comprising sequences encoding peptides useful for treating or diagnosing {\rm e.g.} cancer -
619
                                                                         559
                                                                                                               121
                                                                                                                                                   499
                                                                                                                                                                                                                               439
                                                                                                                                                                                                                                                                                                         379
                                                                                                                                                                                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                             271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               present invention.
                                                                                                                                                                                                                                                                                                     GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                               TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp
                                                                                                                                                                                                                             SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                     AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAATGCACAGATTTTGTA----GATGTCCCT----TGTAGCCACTTCTGCAACAATTTCATT
                                                                         TTTTCCAATGAAGAGCGTTTTACGGGGTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                                                                   CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                     ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                 AGTGAGGTAGAGAAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 758-759;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           769 A; 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.71e-91
1238.00
52.78%
38.23%
32.94%
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               x AAC77788 (1-2725)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2352pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Τ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2725
268
102
283
48
                                                                                                             140
                                                                                                                                                                                                                               498
                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                       60
672
                                                                         618
                                                                                                                                                   558
                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                           318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40
```

γQ

δÃ

δÃ

```
δõ
                                    밁
                                                                       QΥ
                                                                                                            Вþ
                                                                                                                                                 Ş
                                                                                                                                                                                      В
                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                              рь
                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1033
                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1330
                                                                                                              1618
                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                1501
                                                                           491
                                                                                                                                                                                                                           455
                                                                                                                                                                                                                                                                                                                                                                           417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          161
                                                                                                                                                                                      ACTTCCCCTGGCAAGTC---TTCTTTGACAACCCATGGGCTGGTGGAGCGCTCATTAAT 1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TyrTleLeuLysAspSerPheSerTlePheCysGluThrGlyTyrGluLeuLeuGlnGly 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                      AGCTGGGTGAATGAGGTGCTGGGCCCGGAGCTGCCGAAATGTGTTCCAGTCTGTGGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                           GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           {\tt HisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgPromodel}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCCAAACTGATCTAACAGGGCAAAAAAAAGGGCTGGAAACTTCGCTATCATGGAGATCCA 1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla
||| ||||| :::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTCATGGATTCCCTGGGSCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PheSerValIleLeuAspPhe---ValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATCCCAAACCATATCCAGAGAACTCAAGGTGTGAATACCAGATCCGGTTGGAGAAAGGG
                                    {\tt GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT---}
                                                                                                              GAGTACTGGGTGCTGACGGCTGCTCATGTTGTGGAGGGAAACAGGGAGCCAACAATGTAT
                                                                                                                                AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis----
                                                                                                                                                                                                                         AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr 474
                                                                                                                                                                                                                                                                CCCAGAGAACCCTTTGAAGAAAAACAGAGGATAATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                     SerAlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                       PheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeu 436
                                                                                                                                                                                                                                                                                                                                                                                                                GAGCCATATTACTACATGGAAAATGGAGGAGGTGGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAACTGAAATGTCAACCTGTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTGTTGGTGCAACATCTTTCTATTCGACTTGTCAAAGCAATGGAAAGTGGAGTAATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATGTCTTTAGAGATGTGGTGCAGATAACCTGTCTGGATGGGTTTGAAGTTGTGGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGCCCTGCCCT - - - AAGGAAGACACTCCCAATTCTGTTTGGGAGCCTGCGAAGGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAAACTGCCTTGACAGTTTAGTTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGGTTACTTCTGCTCCTGCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
TyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyr--
                                                                       AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GACCCAGAGAGCACTTTGTTTGGTTCTGTCATCCGCTACACTTGTGAG
                                        1734
                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
```

```
망
                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                           5×5
                                                                                                                                                                                                                                                                                     XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P
                                                                                                                                                                                                                                                                                                        ABK63441
                                                                                                                                                                                                                                                                                                                 RESULT 10
                                                                31-JUL-2000;
02-NOV-2000;
11-MAY-2001;
15-MAY-2001;
22-MAY-2001;
06-JUN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                2077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1735
                                                                                                                                                                                                                                                                                                                                    2242
                                                                                                                                                                                                                                                                                                                                                                        2191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1897
                                                                                                                                                    07-FEB-2002
                                                                                                                                                                                        Rattus norvegicus
                                                                                                                                                                                                         differential expression;
                                                                                                                                                                                                                                                         18-JUN-2002
                                                                                                                                                                                                                                                                                               ABK63441 standard;
                                                                                                                                  30-JUL-2001;
                                                                                                                                                                      WO200210453-A2
                                                                                                                                                                                                                  Rat; ss; hepatotoxin; expressed sequence tag; EST; drug screening;
                                                                                                                                                                                                                                     Rat sequence differentially expressed in response to a hepatotoxin #1348
                                                                                                                                                                                                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        602
                                                                                                                                                                                                                                                                                                                                                                                                                              640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       543
                                                                                                                                                                                                                                                                                                                                     ATA
                                                                                                                                                                                                                                                                                                                                                       Ile
                                                                                                                                                                                                                                                                                                                                                                                   AsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAsp---SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGAGAAACCCACAGCAGATGCAGAGGCCTATGTTTTCACTCCTAACATGATCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TyrGluLysProProTyrProArgGlySer-----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---ThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysVal
                                                                                                                                                                                                                                                                                                                                                                                                            CAGGATCCCAATGACAAGACCAAATTCTACGCAGCTGGCCTGGTGTCCTGGGGGCCC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAGGAGAGAG----GGCATGGATAGCTGTAAAGGGGACAGTGGTGGGGGCCTTTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAATGGGACCCACCGTCTCCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGAAGGACGAACCAATTTTGATAATGACATTGCACTGGTGCGGCTGAAAGACCCAGTG
                                                                                                                                                                                                                                                                                                                                                       679
                                                                                                                                                                                                                                                                                                                                    2244
 Ď
                                             2000US-222040P
2000US-244880P
2001US-29002P
2001US-290645P
2001US-295736P
2001US-295798P
2001US-297457P
2001US-298884P
                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                  2001WO-US23872
 Porter
                   LOGIC INC
                                                                                                                                                                                                                                                                                                                                                                       · CAGTGTGGGACCTATGGGCTCTACACACGGGTAAAGAACTATGTTGACTGG
                                                                                                                                                                                                                                                                                               CDNA;
 WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCATGTGTTTATTCATCCGGGATGGAAGCTGCTGGAAGTC
                                                                                                                                                                                                           centrilobular necrosis; steatosis
                                                                                                                                                                                                                                                                                               2908
Johnson KR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Castle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>=</u>
::
AL,
Elashoff
MR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1776
                                                                                                                                                                                                                                                                                                                                                                       2241
                                                                                                                                                                                                                                                                                                                                                                                                                                               2133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1836
                                                                                                                                                                                                                                                                                                                                                                                         678
                                                                                                                                                                                                                                                                                                                                                                                                            2190
                                                                                                                                                                                                                                                                                                                                                                                                                              658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 582
                                                                                                                                                                                                                                                                                              밁
                                                               Ş
                                                                                                  δÃ
                                                                                                                       밁
                                                                                                                                         Š
                                                                                                                                                           D
                                                                                                                                                                            ρ
                                                                                 В
                                                                                                                                                                                                                                                                           Alignment
```

```
Predicting toxic effects of compounds or the progression of these toxic effects by determining the changes in gene expression in tissues or cells exposed to the toxin and comparing these to gene expression in unexposed tissues or cells -
                                                                                                                                                                                                                                                  WPI; 2002-241625/29
```

Claim 1; Seq ID No 1348; 239pp; English

Compounds or the progression of these toxic effects by determining the CC toxin and comparing these to gene expression in unexposed tissues or cells. Also included are methods of predicting at least one toxic ceffect of a compound or progression of a toxic effect, preferably the CC effect of a compound or progression of a toxic effect, preferably the CC expression in a tissue or cell sample exposed to the compound of two or CC more genes listed in the specification, where differential expression of CC the genes is indicative of at least one toxic effect or progression of CC the genes and predict cellular pathways that a compound modulates the toxic response and predict cellular pathways that a compound modulates of in a cell. The methods utilise a set of the probes comprises a sequence that compount in kit form), where each of the probes comprises a sequence that compount in kit form), where each of the probes comprises a sequence that compount in the specification, a computer system comprising a database containing information identifying the expression level in a tissue or cell sample exposed to a hepatotoxin of a cell sample exposed to a hepatotoxin of a centrality ing the expression level in a tissue or cell in the specification, a computer compound in the specification. The method is used to present information used to present information identifying toxicity markers in compound information and for identifying toxicity markers in the specification information may be used as diagnostic markers for the prediction or identification of the physiological state of tissue or cell sample expression sheen exposed to a compound or agent. Hepatotoxicity which is differentially expressed in response to a hepatotoxic agent. Sequence 2908 BP; relates to methods for predicting toxic effects 774 A; 665 Ç 751 <u>و</u>: 718 T; 0 other;

```
Query Match:
                    Best Local Similarity:
                               Percent Similarity:
                                                     <u>N</u>o
∴
1.71e-89
1214.00
54.57%
38.64%
32.30%
         Mismatches:
Indels:
                              Matches:
Conservative:
```

## US-09-874-198-2 (1-686) x ABK63441 (1-2908)

```
550
                                             103
                                                                                          490
                                                                                                                                                                               430
                                                                                                                                                                                                                                                                            370
                                                                                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                                                                                          63
                                                                                                                                  83
                                                                                                                                                                                                                                                                                                                    43
                                                                                                                                                                                                                                                                                                                                                                                                            24
                                                                                                                                                                                                         HisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGly
GTAGAAGAGTTTCAATTCCCATACAATAGGCTCCAGGTGGTCTTTACGTCAGACTTCTCC
                                        LysaspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer
                                                                                                                                                                                                                                                                                                                                                                  GAGCCTACCATGTATGGGGAGATCCTGTCCCCTAATTATCCCCAGGCGTACCCCAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                        GluPro---ValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAsp
                                                                                                                                AlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                             CATCTGGACATGGAGCTGTCAGAGAACTGTGCATACGACTCAGTGCAGATAATCTCAGGA
                                                                                                                                                                                                                                                                       GTCGTGAAAACTTGGGACATAGAAGTCCCAGAGGGGTTTGGGATTCACCTTTACTTCACC
                                                                                                                                                                                                                                                                                                                  GlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThr
                                                                                       GGTATCGAGGAAGAGACTCTGTGGCCAGAGGTCCAGCAAGAGTCCCAACTCCCCCACT
                                                                                                                                  102
                                                                                                                                                                                                                          82
                                                                                       549
                                                                                                                                                                                                                                                                       429
                                                                                                                                                                                                                                                                                                                    62
609
                                                                                                                                                                                                                                                                                                                                                               369
```

Вþ

QΥ

```
1549
                                                                                                                                                                                                                       1489
                                                                                                                                                                                                                                                                                                              1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                             1609
                                                                                                                                                                                                                                                                                                                                                                                                  1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                   418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 279
473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          183
                                                                                                                                                                                                                                                                                                                                  ThrPheTyrThrMetLysValAsnAsp---GlyLysTyrValCysGluAlaAspGlyPhe :::||| ||| |||:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGlu
                                                                                                                                                                                                                                                                                                           CCATATTACTACATGGAACAGGAAGAAGGCGGAGAGTATCACTGTGCTGATGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                             -----GACCCAGAAGACACTGTATTCGGCTCCGTCATCCACTACACGTGCGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTGGCTCAACATCATTCTATTCCACTTGTCAAAGCAACGGACAGTGGAGCAATTCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCTGTCCCAAAGAAATCAGT---GCTAATTCTATCTGGGAGCCCGAAAAGGCAAAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAACTGACCTAACGGGGCAAAATAAAGGCTGGAAGCTTCGTTACCATGGAGATCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACCCATACCCGGAGAACTCAAGGTGTGAATACCAGATTCGGCTGCAGGAGGGCTTCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACTTCTGCTCCTGCCCCCCAGAATACTTCCTCCACGATGACATGAGGACTTGTGGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGly
LeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla
                                        TTTCCTTGGCAGGTCTACTTTGAGTCCCCCCGAGGTGGC------
                                                                                    PheProTrpGlnValLeuIle-----LeuGlyGlyThrThrAlaAlaGlyAlaLeu
                                                                                                                                 ACCGAGCCCTTTAAAGTACAGCAGAGGATATTTGGAGGATACTCTACAAAGATTCAAAGT
                                                                                                                                                                          AlaArg----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAsp
                                                                                                                                                                                                                     TGGGTGAATGACCAGCTGGGTGTCGAGCTTCCAAAATGTATTCCAGTCTGTGGAGTACCC
                                                                                                                                                                                                                                                              TrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGAGTGTCAACCTGTGGACTGTGGTGTTCCAGAACCCATTGAGAATGGTAAAGTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATGGATTCCCTGGACCTCTAACTATTAAAACCCCAGAGCAATACTCTTGATATTGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGC---CACGACAGTTTGACTTTTGCTGCAAAAAACCAACAGTTTGGTCCTTACTGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTGTTGACTATCCGGAGAGAAGATTTTGATGTGGAACCAGCGGACTCAGAGGGGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACTGTAGTGGGGATGTATTCACTGCCTTGATTGGGGAGATCGCAAGTCCCAATTATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAGACTTTACA---GATGTCCCT---TGCAGCCACTTCTGCAATAACTTCATTGGTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCys
                                           -GGGGCTCTT
                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           318
                                                                                                                                 1608
                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222
492
                                                                                                                                                                            455
                                                                                                                                                                                                                     1548
                                                                                                                                                                                                                                                                                                                                                                                               1428
                                                                                                                                                                                                                                                                                                                                                                                                                                        398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      142
                                             1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             669
```

Sy By Oy

B

δÃ

밁

망

g Qy

80

Qy Db gy dg Qy dd Qy

ОУ ОУ ОУ

В

В

```
RESULT 11
AAS92433
ID AAS92
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
AC XXX DIF XXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1774
P-PSDB; ABG28246
                           WPI; 2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAS92433 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1657
                                                                                                                                                                                                       31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                          11-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy;
food supplement; medical imaging; diagnostic; genetic (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA encoding novel human diagnostic protein #28237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-FEB-2002 (first entry)
                                                                                     Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                 WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                             (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGTGTGGGACCTATGGGATCTACACAAAGGTAAAGAACTACGTGGACTGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGGGTGTGGACAGCTGTGAAGGTGACAGCGGAGGGGCTTTTGCTCTGCCGGTCCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyGlyLysAspSerCysArgGlyAspSerGlyGly-----AlaLeuValPheLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGCGAAGTTACCCATAACATCTTTAGAAAAGTGCCAGCAGGTGAAAGTGGAAAACCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGGGCTGATCTCTGGGTGGGGCCGAACAGAGATTAGAACCAATGTTATTCAACTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleGlyThralaSerglyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet
:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTGTTGCCCCCATCTGCCTGCCAGAAACCTTCTCAGACTACAACCCCTCAGAGGTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAAGGACCCCAAATTCTATGTGGCTGGCCTGGTGTCCTGGGGGAAA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAGCGAGGTCAAACGACTATGTTTTCACTGACAACATGATCTGTGCTGGG-----GAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TyrProArgGlySer-----ValThrAlaAsnMetLeuCysAlaGlyLeuGluSer 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCACTGAACGTGTGATTATTCATCCCAGCTGGAAACAAGAGGACGACCTGAATACACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTATGTCGGGTCCACACTTCTGAAAATAGAGCGGTTGAGA---AATGCCCAGAGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAla
                                                                                                                                                                                                    2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA;
                                                                                  Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2358
                                                                                     YT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                606
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82222222223
                                                                                                                  Ş
                                                                                                                                                             Ъ
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC The invention relates to isolated polynucleotide (I) and CC polymerse (II) sequences. (I) is useful as hybridisation probes, CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CC polynucleotides are also used in diagnostics as expressed sequence tags CC for identifying expressed genes. (I) is useful in gene therapy techniques (CI). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating lisorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations can be produce other types of data and products dependent on DNA and CC amino acid sequences. AAS64197-AAS94564 represent novel human CC diagnostic coding sequences of the invention.

CC note: The sequence data for this pattent did not appear in the printed CC at the polynucleotide in electronic format directly from WIPO CC at the polynucleotide sequences.
  g
                                 δ
                                                                                밁
                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-874-198-2 (1-686) x AAS92433 (1-2358)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                     586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 487
                                                                                                                                                                                                                                          706
                                                                                                                        121
                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                    GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                        TCAGGAGACACTGAAGAAGGGAGGCTCTGTGGACAGAGGAGCAGTAACAATCCCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                          AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetArgLeuLeuThrLeuGeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
GAATGCACAGATTTTGTA---GATGTCCCT---TGTAGCCACTTCTGCAACAATTTCATT
                                                                            TTTTCCAATGAAGAGCGTTTTACGGGGTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                   TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp:::|||||||||||:::
                                                                                                                                                         CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                            ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                           SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                     TTCACCCATCTGGACATTGAGCTGTCAGAGAACTGTGCGTATGACTCAGTGCAGATAATC
                                                                                                                                                                                                                                                                                                                                         PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                 AGTGAGGTAGAGAAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ------ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP; 607 A; 564 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.54e-79
1086.50
48.50%
35.38%
28.91%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28237; 103pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             646 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2358
248
92
248
248
113
                                                                                                                  140
                                                                                                                                                         825
                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                        765
                                                                                                                                                                                                                                                                                                                                                                                                 645
                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
```

```
Š
                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                           Ъ
                                                                                                                                                  망
                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1060
                                                                                                                                                                                                                                                                                                   1513
                                      491
                                                                                                                                                                                     455
                                                                                                                                                                                                                                                               437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161 GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                PheSerValIleLeuAspPhe---ValGluSerPheAspValGluThrHisProGluThr
GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT---
                                  -----AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis
                                                                                            AACTTCCCCTGGCAAGTC---TTCTTTGACAACCCATGGGCTGGTGGAGCGCTCATTAAT
                                                                                                                                                                                     AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
                                                                                                                                                                                                                          CCCAGAGAACCCTTTGAAGAAAAACAGAGGATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                               AGCTGGGTGAATGAGGTGCTGGGCCCGGAGCTGCCGAAATGTGTTCCAGTCTGTGGAGTC
                                                                                                                                                                                                                                                                                                                     PheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeu
                                                                                                                                                                                                                                                                                                                                                                         GAGCCATATTACTACATGGAAAAATGGAGGAGGTGGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                          GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCAAACTGATCTAACAGGGCAAAAAAAGGGCTGGAAACTTCGCTAT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCCAAGTGGTGGTGACCTTGCGGAGAGAAGATTTTGATGTGGAAGCAGCTGACTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATCCCAAACCATATCCAGAGAACTCAAGGTGTGAATACCAGATCCGGTTGGAGAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTGGTTACTTCTGCTCCTGCCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
                                                                                                                                                                                                                                             SerAlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgPro 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTCATGGATTCCCTGGGCCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAAACTGCCTTGACAGTTTAGTTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluH1sGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----GTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1179
                                                                                                                                                                                                                                                                                                 1572
                                                                                                                                                                                                                                                                                                                                                                         1512
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             259
```

```
Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                             дь
                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                              DT X
                                                                                                                                                                                                                                                                                                                                                               RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                         IJ
                                                                                                                                                                                                                                                                                                                                                    AAF18150
                                                                                                                                                          WO200055180-A2
                                                                                                                                                                                                              cardioactive; immunomodulatory; muscular active; vulnerary; gastrointestinal; nephrotropic; antiinfective; gynecological; antibacterial; diagnosis; neural disorder; immune disorder; r
                                                                                                                                                                                                                                                                                                                                                                                    2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1807
  WPI; 2000-587514/55
P-PSDB; AAB58274.
                                                                                                              08-MAR-2000; 2000WO-US05918
                                                                                                                                                                                                                                                                                            14-MAR-2001
                                                                                                                                                                                                                                                                                                                                       AAF18150 standard; DNA; 2063 BP
                                                                                                                                                                                                                                                                                                                                                                                                                               2263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1849
                                  Ruben SM;
                                                                                                                                     21-SEP-2000
                                                                                                                                                                                Homo
                                                                                                                                                                                                     proliferative disorder;
                                                       (HUMA-) HUMAN
(ROSE/) ROSEN
                                                                                                                                                                                                                                                                     Lung cancer associated polynucleotide sequence
                                                                                                                                                                                                                                                 luman; lung
                                                                                                                                                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             509
                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                                                                                                                                                    ATA 2316
                                                                                                                                                                                                                                                                                                                                                                                                          Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrGluLysProProTyrProArgGlySer-----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA 2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---ThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGAGGAGAGAG----GGCATGGATAGCTGTAAAGGGGACAGTGGTGGGGCCCTTTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGGAGAAACCCACAGCAGATGCAGAGGCCTATGTTTTCACTCCTAACATGATCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAATGGGACCCACCGTCTCCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGAAGGACGAACCAATTTTGATAATGACATTGCACTGGTGCGGCTGAAAGACCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                              cancer associated protein; neuroprotective; cytostatic;
                                                                                                                                                                                                                                                                                            (first entry)
                                                       GENOME SCI INC C A.
                                                                                                                                                                                                                                                                                                                                                                                                                             - CAGTGTGGGGACCTATGGGCTCTACACACGGGTAAAGAACTATGTTGACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMet 658
                                                                                         99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -GAGCATGTGTTTATTCATCCGGGATGGAAGCTGCTGGAAGTC
                                                                                                                                                                                                     wound healing; infectious
                                                                                                                                                                                                                                                                      SEQ
                                                                                                                                                                                                              disorder; reproductive;
                                                                                                                                                                                                                                                                      ID 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                  678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ę
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scores:
```

```
protein or polynucleotide sequences. The lung cancer associated polynucleotide sequences may be used for detection of lung cancer, chromosome identification, as chromosome markers, and for numerous diagnostic or research purposes. The proteins may be used to treat disorders such as neural, immune, muscular, reproductive,
                           gastrointestinal, pulmonary, cardiovascular, renal, and proliferative disorders. The proteins may also be used in the treatment of wounds and infectious diseases. Polynucleotide sequences AAF18425 - AAF18433 and peptide AAB58549 are used in the course of the invention for the identification and characterisation of the polynucleotide and protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immunomodulatory; muscular active general; vulnerary; gastrointestinal general; nephrotropic; antiinfective; gynecological; or antibacterial activity. The invention also includes antibodies specific for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lung cancer associated gene sequences, referred antigens, useful for treatment, prevention, and such as lung cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         associated
sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Polynucleotide sequences AAF17982 - AAF18424 encode human lung cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Page 632-633; 1425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              proteins represented in AAB58106 - AAB58548. Lung cancer proteins and polynucleotide sequences, their agonists, and smay have neuroprotective; cytostatic; cardioactive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diagnosis o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer
                                                                                                                                                                                                                                                                                                                                                   other
```

Sequence 2063 B₽; 544 A; 568 Ç 515 G G 431 Τ; G

Pred. No.:	000000000000000000000000000000000000000	8.82e-62 Length:	2063	
Score:			201	
Percer Best I	Percent Similarity: 46 Best Local Similarity: 34		69 167	
Query DB:		23.23% Indels: 21 Gaps:	145 16	
us-09-	US-09-874-198-2 (1-686) x	x AAF18150 (1-2063)		
Qy	227 PheValGluSerPhe	\spValGluThrHisProGluThrLeuC\		246
Вb	3 TTCCTGGAGCCTTTTC	TTCCTGGAGCCTTTTGATATTGATGACCACCAGCAANTACACTGCCCCTATGACCAGCTA		62
Qy	247 LysileGln			249
Db	63 CAGGTACAGCCGTCCT	:::::::   CAGGTACAGCCGTCCTACCCTGAAAGACCCTTCCTCCCCTTCTGTCTG		122
Qy	249			249
ф	123 CTTGTCCCAACTTCCT	CTTGTCCCAACTTCCTCCTGGATCCCCTGGCCAGCTGGGGCAGGAACGGCCAACATCACC		182
ΩУ	249			249
Db	183 CATGGGCTGGGTAAGT	CATGGGCTGGGTAAGTTCCCCACACAACTAGAATTGGGTCATGGGGGATCCCTTTTCACCTT		242
Qy	249			249
Db	243 CCCCTGAAAACACACA	CCCCTGAAAACACACATAAGGCAGGATTTCATCACCACCACCACCACCCTGGCCACCAGG		302
Qy	249			249
Db	303 CTACTACCCAGTTGGC	CTACTACCCAGTTGGCCCCTGTGTAAAAACGTCCAAGCTGAAAAAAAA		362
Qy	250Thr	ThrAspArgGluGluHis-GlyProPheCysGlyLysThrLeuProHi		265
Вр	363 CTACTAGATCTATGCC	CTACTAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCYCCC		422
Qy	265 sArgIleGluThrLys	sArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAs		285
Db	423 CGACCTCGACACCAGC	CGACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGA		482
Qy	285 pHisThrGlyTrpLys	pHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAl		305
Db	483 CAGCCGGGGCTGGAAG	CAGCCGGGGCTGGAAGCTGCGCTACACCCACCGAGATCATCAAGTGCCCCCAGCCCAAGAC		542

```
Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           дδ
                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                 Ş
                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
   1521
                                                                                                                                          1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               543
                                                                                                                                                                                                                                                                                                                                   nLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCAAGGAACACGAAGCGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                    aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                           rAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAs 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       eAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAATCACCCCATCCGCAGGNTCAGC------GTCCACCCGGACTACCGTCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGCACAGGGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sVal-----AsnAspGlyLysTyrValCysGluAlaAspGlyPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGAACACCTACAAGGCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  yValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACCACTAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPh
TGGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGGATAGTGGGGGGCGTTTTTGCAGT 1580
                                                                                                                                  -GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGC
                                                                                                                                                                                                       sProProTyrProArgGlySer-----
                                                                                                                                                                                                                                                                            CCTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                   GGGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGAGGAGAAG---ATTGCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGTCCCAACCTCCTCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCT 1361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    r Pro His Tyr Thr Gln A la Trp Ser Glu A la Val Phe I le His Glu Gly Tyr Thr His Assert March 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAACGCCTCTTTGGATGTGTTCCTGGGCCACACAATGTGGAAGAGCTCATGAAGCTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----SerAlaLeuAspIleArgMetGly------ThrLeuLysArgLeuSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             yAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCCGTGAACCCCGTGGAACAGAGGCAGCGCATCATCGGAGGGCAAAAAGCCCAAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGAAGAATGAACAGAAGGGAGAGAAG---ATTCCTCGGTGCTTGCCAGTGTGTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               eTrp---ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATTGCTACCTGCAAGCAAGGCTACCAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aProProAsn---GlyHisValSerProValGlnAlaLysTyrTleLeuLysAspSerPh
                                                                                                                                                                                                    -ValThrAlaAsnMetLeuCysAl 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   435
                                                                                                                                                                                                                                                                                                                                              604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               404
                                                                                                                                                                                                                                                                         1461
                                                                                                                                                                                                                                                                                                                                                                                                                   1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1019
```

```
RESULT 13
AAF18149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                         protein or polynucleotide sequences. The lung cancer associated polynucleotide sequences may be used for detection of lung cancer, chromosome identification, as common and common and for numerous other diagnostic or research purposes. The proteins may be used to treat disorders such as neural, immune, muscular, reproductive, gastrointestinal, pulmonary, cardiovascular, renal, and proliferative disorders. The proteins may also be used in the treatment of wounds and infectious diseases. Polynucleotide sequences AAF18425 - AAF18433 and peptide AAB58549 are used in the course of the invention for the identification and characterisation of the polynucleotide and protein
                                                                                                                                                                                                        Polynucleotide sequences AAF17982 - AAF18424 encode human lung cancer associated proteins represented in AAB55106 - AAB5548. Lung cancer associated proteins and polynucleotide sequences, their agonists, and antagonists may have neuroprotective; cytostatic; cardioactive; lumunomodulatory; muscular active general; vulnerary; gastrointestinal general; nephrotropic; antilnetctive; gynecological; or antibacterial activity. The invention also includes antibodies specific for the
                                                                                                                                                                                                                                                                                                                                                                         antigens, use
such as lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HUMA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cardioactive; immunomodulatory; muscular active; vulnerary; gastrointestinal; nephrotropic; antlinfective; gynecological; antibacterial; diagnosis; neural disorder; munor disorder; prolliferative disorder; wound healing; infectious disease; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1692
                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                                                                                      Lung cancer associated gene sequences, referred to as lung cancer antigens, useful for treatment, prevention, and diagnosis of diso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1638
                                                                                                                                                                                                                                                                                                                                                                                                                                             P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-MAR-2000; 2000WO-US05918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200055180-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAF18149 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lung cancer associated polynucleotide sequence SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           domo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000-587514/55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCAGCAGGGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGC---ATCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SM;
                                                                                                                                                                                                                                                                                                                                        1; Page 632; 1425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HUMAN GENOME
ROSEN C A.
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB58273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer associated protein; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                            cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA; 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TATGGCTTCTACACCAAAGTGCTCAACTACGTGGACTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         reproductive;
                                                                                                                                                                                                                                                                                                                                                                                          disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1637
```

Sequence 1148

BP;

258

A

341 Ç 305 G; 242 Τ. Ŋ other

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
DB:
                                                                                                                                                             Qy
                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
     B
                                           δ
                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match:
                                                                                                                 898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              538
                                                                                                                                                                                                                                                                                                                                         778
                                                                                                                                                                                                                                                                                                                                                                                                226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys------GlySerValAla 15
                                                                                                                                              ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe
AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGRATCATCAAGTGCCCCCAGCCCAAGAC
                                  HisThrGlyTrpLysIleHisTyrThrSerThrAlaGln-ProCysProTyrProMetAl
                                                                                                              GACCTCGACACCAGCAGCAATGCTGTGGGATCTGCTTCTTCACAGATGAGTCGGGGGGAC
                                                                                                                                                                                                                          CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                              LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                      AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                       AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 {\tt SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueuUCysSerBlaueu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AlaProTnrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCACTGGGCAACCCCCCGGGAAAGAAGGAATTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.29e-47
689.50
57.78%
42.51%
18.35%
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           x AAF18149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCTCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-1148)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1148
142
51
119
22
                                                    305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              417
                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                              265
                                                                                                                                                                                                                                                                                                                                      837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55
                                                                                                                                                                285
                                                                                                                                                                                                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                                                                                                                                                                                     777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        မ
```

```
RESULT 14
AAK53540/c
ID AAK535
                                                                                                                                                                Query
DB:
                                                           Q
                                                                                     Db
             δõ
                                                                                                             Qy
                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                       US-09-874-198-2 (1-686) x AAK53540 (1-371)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                      purines/pyrimidines/nucleosides/nucleotides, DNA replication/transcription/translation, or is a transport/binding protei (A) are produced that correspond to the 3'-end of mRNA but without the polyA tail. They can be prepared more efficiently and with less effort than conventional libraries. AAK53436-AAK54275 represent fragments of t gene library described in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                This invention describes a novel gene library (A) comprises a casequence (or its part) encoding a protein involved in amino aci synthesis, cellular/energy metabolism, metabolism of fatty acids/phospholipids, synthesis or breakdown of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell metabolism; energy metabolism; fatty acid metabolism; synthesis; phospholipid metabolism; purine; pyrimidine; nucleoside; nucleotide; replication; transcription; translation; transport protein; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                               Claim
                                                                                                                                                                                                                                                                Sequence 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tail,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LION-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-FEB-2001; 2001DE-2003510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DE20103510-U1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Murine; liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Murine transport and binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAK53540,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAK53540 standard;
                                                                                                                                                                                                                             No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-NOV-2001
              809
                                       305
                                                                                       365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                305
                                                                                                                                                                                                                                                                                                                                                                                                                                                               library containing , encoding proteins
                                                    ValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyr
                                                                                                  GlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyr
             ProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAsp
                                       GTGGACATACCAATTGCTGACCACCAAAAATGTACCACCGTGTATGAAAAG----CTCTAT
                                                                                       GGAACTGTGGCTGGCGTGGGGGTTAACCCCAGAAGGGGCTTCTTGCTAGAAACCTAATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-368570/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTAGACGGAGTTCACCATCATCCAGAACCTGCAGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LION BIOSCIENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                            51-52; 251pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene library;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99DE-1058160
                                                                                                                                                                                                                                                                94
3.29e-35
536.50
89.92%
82.35%
14.28%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA;
                                                                                                                                                                                                                                                                Α;
                                                                                                                                                                                                                                                                104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  involved :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        371
                                                                                                                                                                                                                                                                C;
                                                                                                                                                                                                                                                                                                                                                                                                                             German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВР
                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 s with specific 3'-ends and no polyA in a wide range of cellular process
                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                 105
                                                                                                                                                                                                                                                                Т;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     synthesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein encoding
                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                318
                                                                                                                                                              371
98
9
11
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  processes
                                                                                                                                                                                                                                                                                                                                                                                          gene
cid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ
                                                                                                                                                                                                                                                                                                                                          protein.
                                                              607
               627
                                       249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IJ
                                                                                       306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 105.
                                                                                                                                                                                                                                                                                                       the
```

B

```
RESULT 1:
AAA93124
ID AAA
                                                                                                                                                                                                                                3-SEP-1999;
01-OCT-1999;
29-NOV-1999;
29-NOV-1999;
15-FEB-2000;
       The present sequence is the coding sequence for a human secreted protein. The sequence was isolated from an adult muscle cDNA library. The proteins and coding sequences of the invention can be used in the isolation of similar genes and proteins, in the elucidation of their function in vivo, and to treat a number of conditions. It is possible that they may have
                                                                                                        as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAA93124 standard;
                                                                                 Claim
                                                                                                                                                                                     Valenzuela
                                                                                                                                                                                                                                                                                                                                                                                                                     mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                           sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; secreted protein; cytokine; cell proliferation; nutritional supplement; immune modulation; autoimmune disorder; haematopoiesis regulation; tissue growth; haemostasis; inflammation;
                                                                                                                                                                                                         (ALPH-) ALPHAGENE INC
                                                                                                                                                                                                                                                                                                                                                             24 - AUG - 2000
                                                                                                                                                                                                                                                                                                                                                                                    WO200049134-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human secreted
                                                                                                                                                                                                                                                                                                                19-FEB-1999;
                                                                                                                                                                                                                                                                                                                                       18-FEB-2000;
                                                                                                                                                                                                                                                                                        23-APR-1999;
7-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83
                                                                                                  secreted proteins and polynucleotides encoding them, ived from Homo sapiens, useful for therapy, diagnosis, well as nutritional sources or supplements -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                as nutritional supplements, as cytokine or cell
                                                                                                                                                    2000-549267/50.
)B; AAB23624.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGGAGTAAGAGTAAGCGCTAACATGCTCTGTGCTGGCTAGAGACTGGTGGCAAGGAC
                                                                                Page
                                                                                                                                                                                     D
                                                                                                                                                                                                                                99US-0167822.
99US-0167823.
2000US-0298733.
                                                                                                                                                                                                                                                                                                                                      2000WO-US04340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                99US-0120680.
99US-0298733.
99US-0149639.
99US-0155686.
99US-0157247.
                                                                                                                                                                                    Yuan
                                                                                                                                                                                                                                                                                                                                                                                                                                    /product= )
21..59
                                                                                274-275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein coding sequence SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= 1
60..1409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers 18..1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA;
                                                                                                                                                                                     Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                ۵
                                                                                                                                                                                                                                                                                                                                                                                                         C
                                                                              309pp; English.
                                                                                                                                                                                     Hoffman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3094
                                                                                                                                                                                                                                                                                                                                                                                                                                                      "secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВР
                                                                                                                                                                                     Hall
                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein"
                                                                                                                                                                                    'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ħ
                                                                                                                                                                                    Rapiejko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47.
                                                                                                                          them, which are
                                                                                                                and
                                                                                                                research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SS
                δ
                                                               οy
                                                                                                            Qy
                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33333×3
                                           Вþ
                                                                                          В
                                                                                                                                     밁
                                                                                                                                                                                 망
                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-874-198-2 (1-686) x AAA93124 (1-3094)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No..
443
                     276
                                            429
                                                                   256
                                                                                          428
                                                                                                                                     401
                                                                                                                                                                                  393
                                                                                                                                                                                                         196
                                                                                                                                                                                                                                389
                                                                                                                                                                                                                                                      176
                                                                                                                                                                                                                                                                            387
                                                                                                                                                                                                                                                                                                  156
                                                                                                                                                                                                                                                                                                                                              136
                                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                            116
                                                                                                                                                                                                                                                                                                                                                                                                                   302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122
                                                                                                                                                            216
                                                                                                                                                                                                                                                                                                                         386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17
                                                                                                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74
GAACTAT - -
                                                                                                            sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl
                                                                                                                                     CCTCCACAAGGGCTTCCTGGCCCTCTAC---
                                                                                                                                                                                                      uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe
                                                                                                                                                                                                                                CAAG----
                                                                                                                                                                                                                                                   nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe
                                                                                                                                                                                                                                                                                                                                                                    CTTCCGCACACAGCCTTCCTCGGAG-----
                                                                                                                                                                                                                                                                                                                                                                                          rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.26e-31
498.00
33.67%
23.03%
13.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783 A; 857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
```

```
factors, in immune modulation, where they may be used to treat immur autoimmune diseases, as haematopiesis regulators (treating myeloid lymphoid cell deficiencies), in the promotion of tissue growth, they have chemokine or chemotactic activity, haemostatic or thrombolytic activity, or anti-inflammatory activity.
G; 666 T;
0 other;
                                                                                                                                                  myeloid or
                                                                                                                        may
                                                                                                                                                                                and
```

δÃ DЪ Š Вb Ş

밁

Matches: Conservative: Mismatches: Indels: 3094 158 73 194 261

ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr CCTCTTGGCCCAAGAGCTACCCCAG-----CAGCTGACATCCCCCGGGTACCC 121 56 36

AGAGCCGTATGGCAAAGGCCAAGAGAGCAGCACGACATCAAGGCTCCAGAGGGCTTTGC 181

eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGACTC 96 76 241

TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC

aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy 156

SHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176 . . . . . . . . . . . . .

388

386

386

400

216 392

rLeuGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHi 428

CCCCCXXXXIII

Qy

Q B Q B

04 Qd Qd

Вb

```
1040
                                                                                              1157
                                                                                                                                                                                             1097
                                               619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                  nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGl 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG-----GTCCAGAACCACTG
TGGGGATGAGACGCAAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCGTCTATGTGGT
                             aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh
                                                                                                                                         rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl 619
                                                                                                                                                                                           CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA
                                                                                                                                                                                                                                     y \verb|PheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysTh|
                                                                                                                                                                                                                                                                                       GACCCTCTACCGCAGCGGCTTGTTGGGCTACGTCAGTGGGTTTGGCCATG----GAGATGGG
                                                                                                                                                                                                                                                                                                                                    uSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGl
                                                                                                                                                                                                                                                                                                                                                                                         CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----HisAspAlaSerAlaLeuAspIleArgMetGly-----Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCCCTGCTGGGGGACAGATGGATCCTCACTGCTGCCCACACCGTCTACCCCAAGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCCAAGCTGGGCAACTTCCCCCTGGCAAGCCTTCACCAGTATCCACGGCCGTGGGGGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    {\tt sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlue}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGTCACCCCCATTGCCCAGAATCAGACGACC-----CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             yPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGGAGCCCTATTAT---CAGGCCGCGGCAGCAGGGGCACTCACCTGTGCAACCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -AGTCAGCCCATCAGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GAGGCCAGCAG
                                               639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  316
                                                                                                                                                                                                                                          599
                                                                                                                                                                                                                                                                                          1096
                                                                                                                                                                                                                                                                                                                                         579
                                                                                                                                                                                                                                                                                                                                                                                         1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      697
```

Оу

В

Ωy

Вþ

g Qy DP DP В

Qy

P 09

Qy

밁

 Db
 Dy

 Db
 Db

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                  03-MAR-2000;
03-MAR-2000;
06-MAR-2000;
06-MAR-2000;
17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           familial myelodysplastic syndrome; Charcot Marie-Tooth neuropathy; demyelinating Gardner syndrome; familial myelodysplastic syndrome; mental health condition; immunological disorder; allergy; infertility; bronchial asthma; Avellino type eosinophilia; lung disease; deafness; reproductive disorder; reproductive disorder; glycoprotein Ia deficiency; desmoid disease; turcot syndrome; liver cirrhosis; hepatitis C; virucide; gastric disorders; panoreatic disease; Schistosoma mansoni infection; spinocerebellar ataxia; plasmodium falciparum parasitemina; diabetes; corneal dystrophy-Greonouw type I; Corneal dystrophy-lattice type I; Reis-Bucklers corneal dystrophy; cytostatic; immunosuppressive; antiallergic; antiasthmatic; antiinfertility; antiinflammatory; antiinflammatory; hammological; antiinfertility; immunostimulant; auditory; haemostatic; gene therapy; FCTR5a; human complement CIR component precursor.
                                                                                                                                                                                                                                                                                                                                       3'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1385
                          WPI; 2001-596837/67
                                                   Vernet CAM, I
                                                                                                                         07-APR-2000;
03-JAN-2001;
                                                                                                                                                                                                                                                                                              WO200166747-A2
                                                                                                                                                                                                                                                                                                                                                                   5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            astrocytoma; congenital neonatal alloimmune thrombocytopaenia; in neurological disorder; neurodegenerative disorders; nerve trauma
             P-PSDB; AAU08683
                                                                                                                                                                                                                                        05-MAR-2001; 2001WO-US07160
                                                                                                                                                                                                                                                                    13-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAS14091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human FCTR5a
                                                                                             (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGGGAGTGATGAAT 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGTGGCGAAGGG-----TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT 1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIl 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGGACAATCATGCCCATCACTGGGTGGCCACGGGCATTGTGTCCTGGGGC----ATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     eGluAsnIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                       2000US-186592P.
2000US-186718P.
2000US-187293P.
2000US-187294P.
2000US-190400P.
2000US-196018P.
2000US-259548P.
                                                                   Fernandes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         myelogenous leukaemia; carcinoma; melanoma; glioma; ds;
                                                                                                                                                                                                                                                                                                                                                             /product= '
                                                      Mishra V,
                                                                                                                                                                                                                                                                                                                                       /*tag= b
1498..1667
                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers 34..1497
                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          684
                                                                 E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1667
                                                      Shimkets RA, Herrman
Mezes PS, Rastelli L;
                                                                                                                                                                                                                                                                                                                                                                                "Human FCTR5a"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                   Herrmann
                                                                   Majumder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            infection;
                                                                   ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1330
```

```
US-09-874-198-2 (1-686) x AAS14091 (1-1667)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disorders, allergy and infection, bronchial asthma, Aveilino type eosinophilia, lung diseases, reproductive disorders, infertility, male and female reproductive disorders, deafness, glycoprotein Ia deficiency, desmoid disease, turcot syndrome, liver cirrhosis, hepatitis C, gastric disorders, pancreatic diseases such as diabetes, Schistosoma mansoni infection Spinocerebellar ataxia, Plasmodium falciparum parasitaemia, Corneal dystrophy-Greonouw type I, Corneal dystrophy-lattice type I and Reis-Bucklers corneal dystrophy. This sequence represents DNA encoding FCTR5a, a protein bearing sequence homology to human complement CIR component precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Charcot-Marie-Tooth neuropathy, demyelinating Gardner syndrome, myelodysplastic syndrome, mental health conditions, immunologica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           carcinomas, melanomas, gliomas, astrocytomas, congenital neonatal alloimmune thrombocytopaenia, neurological disorders, neurodegenerative disorders, nerve trauma, familial myelodysplastic syndrome,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to human FCTRX polypeptides, FCTR1-FCTR7, and the nucleic acids encoding them. These sequences are useful for the treatment or prevention of numerous disorders including myelogenous leukaemia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel polypeptides designated as FCTRX polypeptides, useful in detection, prevention and treatment of a broad range of pathological
                                                                                              176 nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56 gLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPh
                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCCGCACACAGCCTTCCTCGGAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGAGGCTCGTCCTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGACTC
                                               CAAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr
                                                                                                                                                                                                                             sHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176
                                                                                                                                                                                                                                                                                                                                                          aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleTh 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGAGCCGTATGGCAAAGGCCAAGAGAGCAGCACCGGACATCAAGGCTCCAGAGGGCTTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTCTTGGCCCAAGAGCTACCCCAG------CAGCTGACATCCCCCGGGTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 93-94; 215pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.75e-31
496.00
33.67%
22.89%
13.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354 A; 475 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1667
157
74
194
261
20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1mmunologica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    familial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
   Ş
                                                                   D
                                                                                                                         Ş
                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                           903
                                                                                                                                                                                                                                                                                                                                                                                                                                                        843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   yAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGl 559
                                                            CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                         uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCCCTGCTGGGGGACAGATGGATCCTCACTGCTGCCCACACCATCTACCCCAAGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGl 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGTCACCCCCATTGCCCCAGAATCAGACGACC------CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  {\tt sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGluAlaAspGluGluThrPheTyrThrMetLysValAspAspGlyLysTyrValCysGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAspGluAlaAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \verb|nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr|\\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             yProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTCCACAAGGGCTTCCTGGCCCTCTAC---
                                                                                                                                                                                        GATGCTGAAACTGGGGAACCACCCTGTC------CACCGTGTCGTTGTGCACCC
                                                                                                                                                                                                                                                        rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl
                                                                                                                                                                                                                                                                                                                     TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                                                                                                                 ------HisAspAlaSerAlaLeuAspIleArgMetGly------Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGGAGCCCTATTAT - - - CAGGCCGCGGCAGCAGGGGGCACTCACCTGTGCAACCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG-----GTCCAGAACCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -AGTCAGCCCATCAGC---------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rLeuGluGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----CAAACCGTGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGGCCAGCAG
                                                                                                                                                                                            1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             276
                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             513
```

В

471

Š

밁 á Вb δõ

472

В δ

447

Š

96

В

327

76

В

387

밁 δÃ

207

2

267

Ş

17

DB

Score:

SSSS

В

159

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAS14092/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; FCTRX; myelogenous leukaemia; carcinoma; melanoma; glioma; castrocytoma; congenital neonatal alloimmune thrombocytopaenia; infenerological disorder; neurodegenerative disorders; nerve trauma; familial myelodysplastic syndrome; Charcot-Marie-Tooth neuropathy; demyelinating Gardner syndrome; familial myelodysplastic syndrome; mental health condition; immunological disorder; allergy; infertil:
                                                                                                                                                                                                                                                                                         bronchial asthma; Avellino type eosinophilia; lung disease; deafness; reproductive disorder; reproductive disorder; glycoprotein Ia deficiency; desmoid disease; turcot syndrome; liver cirrhosis; hepatitis C; virucide; gastric disorders; pancreatic disease; Schistosoma mansoni infection; spinocerebellar ataxia; Plasmodium falciparum parasitaemia; diabetes; Corneal dystrophy-Greonouw type I; Corneal dystrophy-lattice type I; Reis-Bucklers corneal dystrophy; cytostatic; immunosuppressive; antiallergic; antiasthmatic; antiinfertility; antiinflammatory; antidiabetic; protozoacide; hepatotropic; virucide; ophthalmological; antidiabetic; antiinfertility; immunostimulant; auditory; haemostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1071
                                                                                             3'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1125
13-SEP-2001.
                                      WO200166747-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human FCTR5b DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAS14092 standard; DNA; 1691 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAAGGGAGTGATGAAT 1485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eGluAsnIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGTGGCGAAGGG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGGACAATCATGCCCATCACTGGGTGGCCACGGGCATTGTGTCCTGGGGC----ATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACCCTCTACCGCAGCGGCTTGTTGGGCTACGTCAGTGGGTTTGGCATG---GAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCCTCTATGTGGT 1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCCTGGCTCCAAAAGAGACAGAGACCCGAG----GTGTTTTCTGACAATATGTTCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA 1241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yPheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysTh 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                             FCTR5b;
                                                                                                                          /product=
1..255
                                                                                       /*tag= b
1424..1691
                                                                                                                                                                                   256..1423
                                                                                                                                                                  /*tag=
                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                             human complement C1R component precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT
                                                                                                                                             "Human FCTR5b"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   infertility;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ds;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                659
```

g δÃ В δõ ₽ QΥ B УŠ

1341 TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC 1282

1401

TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGGACTC 1342 eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs

96

gLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPh AGAGCCGTATGGCAAAAGGCCAAGAGAGCACCACGACATCAAGGCCTCCAGAGGGCCTTTGC 1402 oGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrAr 56

76

1461

36

US-09-874-198-2 (1-686) x AAS14092

1509

CCTCTTGGCCCAAGAGCTACCCCAG

ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr 36

-CAGCTGACATCCCCCGGGTACCC 1462

(1-1691)

Gaps: Mismatches: Indels: Matches: Conservative:

17

Query Match: Best Local Percent Similarity:

Similarity:

496.00 33.67% 22.89% 13.20% 22

1691 157 74 194 261 20

4.84e-31

```
Alignment
Pred. No.:
                                                Charcot-Marie-Tooth neuropathy, demyelinating Gardner syndrome, familial myelodysplastic syndrome, mental health conditions, immunological disorders, allergy and infection, bronchial asthma, Avellino type eosinophilia, lung diseases, reproductive disorders, infertility, male and female reproductive disorders, deafness, glycoprotein Ia deficiency, desmoid disease, turcot syndrome, liver cirrhosis, hepatitis C, gastric disorders, pancreatic diseases such as diabetes, Schistosoma mansoni infection Spinocerebellar ataxia, Plasmodium falciparum parasitaemia, Corneal dystrophy-Grenonow type I, Corneal dystrophy-lattice type I and Reis-Bucklers corneal dystrophy.
                                                                                                                                                                                                                                                                                           alloimmune thrombocytopaenia, neurological disorders, neurodegenerative disorders, nerve trauma, familial myelodysplastic syndrome,
                                                                                                                                                                                                                                                                                                                          nucleic acids encoding them. These sequences are useful for the trea or prevention of numerous disorders including myelogenous leukaemia, carcinomas, melanomas, gliomas, astrocytomas, congenital neonatal
                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-MAR-2000;
17-MAR-2000;
                                                Sequence 1691
                                                                             sequence but the
                                                                                        component precursor.
Note: The specification provides the start and
                                                                                                                        FCTR5b, a protein bearing
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel polypeptides designated as FCTRX polypeptides, detection, prevention and treatment of a broad range
                                                                                                                                                                                                                                                                                                                                                                                                                                                   detection,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-APR-2000;
03-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-MAR-2000;
06-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vernet CAM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2001-596837/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-186718P.
2000US-187293P.
2000US-187294P.
2000US-190400P.
2000US-196018P.
2000US-259548P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fernandes E,
Mishra V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001WO-US07160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-186592P
                                                                                                                                                                                                                                                                                                                                                                                                       94;
                                                BP;
                                                                                                                                                                                                                                                                                                                                                                         relates to human FCTRX polypeptides, FCTR1-FCTR7,
                                                                             DNA
                                             349 A; 502
                                                                                                                                                                                                                                                                                                                                                                                                      215pp; English.
                                                                             does
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shimkets
Mezes PS,
                                                                           not appear to encode the stated
                                                                                                                        sequence homology
                                              Ç
                                              484 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RA, Herrmann
Rastelli L;
                                                356
                                                Τ;
                                                                                                                        to human complement C1R
                                                0
                                                                                           stop codons of the coding
                                                other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JĽ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   of pathological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     useful in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Majumder
                                                                             protein
                                                                                                                                                                                                                                                                                                                                                            treatment
                                                                                                                                                                                                                                                                                                                                                                         and the
```

```
8
                                                                                                                      В
                                                                                                                                               Ş
                                                                                                                                                                              밁
                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
    밁
                             Š
                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ģ
                                                                                                                                                                                   1100
                                                                                                                         1050
                                                                                                                                                                                                                                             1101
                                                                                                                                                                                                                                                                                                        1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1194 CAAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
    933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        176 nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl 416
                                                                                                                                                                                                         gValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACTAT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC
GCCAGTCACCCCCATTGCCCAGAATCAGACGACC------CTCGGTTCTTCCAG
                                                                                                                   CCAGGAGCCCTATTAT---CAGGCCGCGGCAGCAGGGGCACTCACCTGTGCAACCCCAGG
                                                                                                                                                                              ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG-----GTCCAGAACCACTG
                                                                                                                                                                                                                                                                     gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr 376
                                                                                                                                                                                                                                                                                                                                 nGlyHisLeuProLeuLysSerPheThrAlaValCysGinLysAspGlySerTrpAspAr 356
                                                                                                                                                                                                                                                                                                                                                                                           aLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl 336
                                                                                                                                                                                                                                                                                                                                                                                                                         -AGTCAGCCCATCAGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                     rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl
                            -----LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy 450
                                                          GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------CAAACCGTGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             yProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCCGCACACAGCCTTCCTCGGAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleTh
                                                                                                                                                                                                                                                                                                                                                                ------GAGGCCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----ACTGCCCA 1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1195
                                                                                                                                                                                                                                         1101
                                                                                                                                                                                                                                                                                                                                                                1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                         316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116
 886
                                                                                                                                                                                1051
                                                                                                                                                                                                              396
                                                                                                                                                                                                                                                                                                                                                                                                                           1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1197
```

```
AAX87815
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                           Ωy
                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
В
                                        Key
CDS
                                                                                            Tumour antigen breast cancer;
                                                                                                                                               09-NOV-1999 (first entry)
          WO9942120-A1
                                                                                                                           Tumour antigen
                                                                                                                                                                      AAX87815;
                                                                                                                                                                                           AAX87815 standard; cDNA; 3147
                                                                       Homo sapiens
                                                                                                                                                                                                                                    198
                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                                         309
                                                                                                                                                                                                                                                                                                                                             639
                                                                                                                                                                                                                                                                                                                                                                   369
                                                                                                                                                                                                                                                                                                                                                                                        619
                                                                                                                                                                                                                                                                                                                                                                                                              426
                                                                                                                                                                                                                                                                                                                                                                                                                                  599
                                                                                                                                                                                                                                                                                                                                                                                                                                                      486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  450
                                                                                                                                                                                                                                                                                         nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpI1 679
                                                                                                                                                                                                                                                                                                                       CAAGGGAGTGATGAAT 183
                                                                                                                                                                                                                                                         eGluAsnIleIleSer 684
                                                                                                                                                                                                                                                                                                                                                                               aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh
                                                                                                                                                                                                                                                                                                                                                                                                                                rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGl
                                                                                                                                                                                                                                                                              GTGTGGCGAAGGG-----TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT
                                                                                                                                                                                                                                                                                                                                                                   TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCCTCTATGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                            CGCCTGGCTCCAAAAGAGACAGAGACCCGAG---GTGTTTTCTGACAATATGTTCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yPheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATGCTGAAACTGGGGAACCACCCTGTC------CACCGTGTCGTTGTGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCAAGCTGGGCAACTTCCCCTGGCAAGCCTTCACCAGTATCCACGGCCGTGGGGGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               derived gene-15 (TADG-15) cDNA
                                                                                           derived gene-15; TADG-15; serine protease;
ovary cancer; carcinoma; diagnosis; ss.
                            Location/Qualifiers
23..2590
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                       639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         706
                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                            659
                                                                                                                                                                                                                                                                                                                                                                                                                                 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                487
                                                                                                                                                                                                                                                                                                                        253
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 222222222222
                                                                                                                          Qy
                                                                                                                                                                                                       Ър
                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                     Вp
                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CX PTXXX DRXXX PTXXX PTX
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-874-198-2 (1-686) x AAX87815 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     an extracellular serine protease, termed tumour antigen derived gene-15 protein (see AAV06671), that is overexpressed in breast and ovarian carcinomas. The TADG-15 gene can be used as a diagnostic and therapeutic target in ovarian carcinoma and other carcinomas including breast, prostate, lung and colon. The TADG-15 cDNA was isolated from ovarian carcinoma by PCR using primers directed to conserved areas of the serine protease family. The invention also provides: a vector that is capable of expressing DNA encoding TADG-15 protein; host cells selected from bacterial cells (especially Escherichia coli), mammalian cells, plant cells and insect cells; and a method of detecting expression of TADG-15 protein using a hybridisation probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This is the nucleotide sequence of an isolated cDNA that codes for an extracellular serine protease, termed tumour antigen derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 2; Fig 9; 71pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              O'Brien TJ, Tanimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3147 BP; 654 A; 952 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A new extracellular serine protease for diagnosis of neoplastic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1999-527418/44.
P-PSDB; AAY06671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (UYAR-) UNIV ARKANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-AUG-1999
162 GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                 142 CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                            926
                                                                                                                                                                                                                                                                                                                                                                                                               103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    761 GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48 ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCTGCGACGAGCGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCATGGAG 880
                                                                                                                                                                                                       CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 1039
                                                                                                                                                                                                                                                                      AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu 141
                                                                                                                                                                                                                                                                                                                                            AACCTGACCTTCCACTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG 985
                                                                                                                                                                                                                                                                                                                                                                                                        LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCCACGCCCTGGTGCAGTTGTGTGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0027337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-US03436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.35e-30
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ξ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 958 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 583 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ACCTACCCTCCTCCTAC 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3147
186
90
270
184
31
                                                                  1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      760
```

y 471 AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys 489 :::   :::	Qy
1892 GCCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCAGGG	DЪ
454 GlyAspPheProTrpGlnValLeu	Qy
y 434 CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro 453	Qу Db
yy 414 AlakspolypheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433 :::         1802 AGCGACGGCTCAGATGAGAAGGACTGCGAC 1831	рь
	Db 2
397 GluGluThrPheTyrThrMetLvsValAsnAspGlyLysTyrValCvsGlu 41	ΟV
y 377 ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys 396	Qy Db
1646 CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGACGACGACGACGACGCCTCCTGCCCCAAG 17	망
1586 GGGTGCAGTTGTCCGGCCCAGACCTT	앙망
y 360 AlaCysSerIleVal 364	Qy
1535 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAG	망
345 ThralavalCysGlnLysAspGlySerTrpAspAr	Qy
yy 325 SeritePheCysGluThTG1YTYTG1uLeuLeuGInG1YH1SLeuPTOLeuLySSerPhe 344 :::    :::    ::::     b 1475 AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC 1534	Db Qy
1415 ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACAGCGATGAGCTC 14	DЬ
319 IleLeu	Qy
1376 CCATGCCC	Дb
299 ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAla	Qy
yy 281 AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGln 298    :::      :::	Qy Db
1256 GAGAGGTCCCAGTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA 1	рь
261 LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr 28	Qγ
241 CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly 260	gg Q9
1151 CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGGTGGAGCCCGGGGGTGCCTGCGGGGCACC 12	Дb
222 SerVallleLeuAspPheValGluSerPhe <i>F</i>	Qy
1091 CCAGGCCACTACCCACCCAACATTGACTGCACATGGAACAT	DЬ
202 ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerL	Qy
1043GGAGGCCGCTTACGTAAAAGCCCAGGGGACATTCAACAGCCCCTACTAC 10	Db KI
1042	Db C

ð 밁 δÃ В ş В Ş 밁

멍

```
matriptase;
                                                                                                                                                                                                                                                                        Human; transmembrane serine protease; membrane-type serine protease; MTSP; protease domain; neoplastic disease; tumour; cancer; cytostati lung carcinoma; colon adenocarcinoma; ovarian carcinoma; gene therap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2267
02-FEB-2001; 2001WO-US03471
                                       09-AUG-2001
                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                         Human membrane-type serine protease (MTSP) 1 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                   16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1952
                                                                               WO200157194-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
13
AD13113 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                671 LysValileAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg :::||| ||| |||| |||| |||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCTGGGGACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             {\tt AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCTCATCTCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA 2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGTGGTGAGCTGGGGAGAC - - - GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProfleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAGCGCCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCAC------
                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                          Location/Qualifiers 23..2590
                                                                                                                  /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Human transmembrane serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---HisAsp-----
                                                                                                                protease
                                                                                                                                                                                                                                                                          therapy
                                                                                                                  (MTSP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             491
                                                                                         δÃ
                                                                                                                                 Вþ
                                                                                                                                                                        Ş
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                юy
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x AAD13113 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-FEB-2000;
18-FEB-2000;
22-JUN-2000;
26-JUL-2000;
08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tumours or cancers such as lung carcinoma, colon adenocarcinoma and ovarian carcinoma, in diagnostics and in hybridisation assays. MTSP is useful as a diagnostic marker for tumour development, growth and/or progression and as immunogens to generate antibodies that specifically bind to it. MTSP DNA is useful in a yeast two-hybrid system and in gene therapy. The present sequence is a DNA encoding human MTSP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to transmembrane serine proteases and their corresponding nucleotides and the protease domain of a type-II membrane-type serine protease (MTSP). MTSP is useful for identifying compounds that modulate or inhibits its proteolytic activity and for formulating a medicament for treating neoplastic disease. MTSP and its corresponding nucleotides are useful in preventing or treating temperatures of concern such as a corresponding or treating or treating temperatures.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 14; Page 191-195; 256pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 useful for treating and preventing cancer and tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel single chain polypeptide comprising protease domain of type-II membrane-type serine protease or its catalytically active portion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CORV-) CORVAS INT INC
              142
                                                                                                                                                                          103
                                                                                                                                                                                                                881
                                                                                                                                                                                                                                                                                             821
                                                                                                                                                                                                                                                                                                                                                                          761
                                                                                                                                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                    89
                                                                                                                                                                                                                                                                                                                                                                                                                 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29
            CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly
                                                                                                                                                                                                              CCCCACGCCCTGGTGCAGTTGTGTGGC----
                                                                                                                                                                                                                                                                                                                                                                                                             ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                    CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 1039
                                                                                 AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu
                                                                                                                                 AACCTGACCTTCCACTCCTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                      {\tt LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer}
                                                                                                                                                                                                                                                                                           TCCTGCGACGAGCGCGCGGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCCATGGAG
                                                                                                                                                                                                                                                                                                                              LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                                                          GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-488877/53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (also called matriptase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE06930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EL,
                                                                                                                                                                                                                                       -ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0179982.
2000US-0183542.
2000US-0213124.
2000US-0220970.
2000US-0657986.
2000US-0234840.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.35e-30
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        654 A; 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŗ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          583
                                                                                                                                                                                                              -----ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ţ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3147
186
90
270
184
31
```

8

밁 δÃ 밁 δÃ Вb QΥ ₽ δõ

밁 δÃ В

PRINCE PRODUCT TO THE 
925

880

84

```
Q
                                                                                                                                  망
                                                                                                                                                                                                    Вþ
                                                                 B
                                                                                                                                                                δÃ
                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                              Qγ
                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                    1802
                                                                                                                                                                                                     1745
                                                                                                                                                                                                                                                                     1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1040
   1892
                                                                 1832
                                                                                                                                                                                                                                                                                                                                       1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1043
                                                                                                   434
                                                                                                                                                                     414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182
                                                                                                                                                            AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal
                                                                                                                                                                                                                                                                                                                                 :::
CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG
                                GlyAspPheProTrpGlnValLeuIle----LeuGly----GlyThrThrAlaAlaGly
                                                                                                CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                      AGCGACGGC-----
                                                                                                                                                                                                    AlaCysSerIleVal--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr
|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGAGGTCCCAGTTCGTCGTCACCAGCAACAACAAGATCACAGTTCGCTTCCACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
GGCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCCAGGGCCCACATCTGCGGTGCT
                                                                   TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCACGGATGCGGATGAG
                                                                                                                                                                                                                                 GluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyrValCysGlu
                                                                                                                                                                                                                                                                   GTGAACGTCGTCACTTGTACCAAACACACC------TACCGCTGC
                                                                                                                                                                                                                                                                                                  ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                                                                    ------ProAspAspLeuProSerGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                    GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrAlaValCysGlnLys-------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCACCACCACGATGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleLeuLys-----AspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCATGCCCG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----ThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCCCAAGGACTACGTGGAGATCAATGGGGGAGAAA-----TACTGCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGGCCACTACCCAACCATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------GGAGGCCGCTTACGTAAAGCCCCAGGGGACATTCAACAGCCCCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGT----
                                                                                                                                  -----TCAGATGAGAAGGAC-----TGCGAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GGGCAGTTCACGTGCCGCACGGGGCGGTGT
 1951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1414
                                  470
                                                                 1891
                                                                                                                                                                                                                                                                                                                                                                                                    1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1315
                                                                                                  453
                                                                                                                                                                                                                                                                     1744
                                                                                                                                                                                                                                                                                                                                   1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1042
                                                                                                                                                                                                                                                                                                                                                                     376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
                                                                                                                                  1831
                                                                                                                                                                                                                                                                                                                                                                                                                                     364
```

```
RESULT 20
AAD13155
                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                  2543
                                                                                                                                            matriptase;
                                                                                                                                             Human; transmembrane serine protease; membrane-type serine protease; MTSP; protease domain; neoplastic disease; tumour; cancer; cytostatic; lung carcinoma; colon adenocarcinoma; ovarian carcinoma; gene therapy; matriptase; ds.
                                                                                                                                                                                                                   Human membrane-type serine protease (MTSP) 1 protease domain
                                                                                                                                                                                                                                                                                                         AAD13155 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                           2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2072
                                                                                                                                                                                                                                                  16-OCT-2001
                                                                                                                                                                                                                                                                               AAD13155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         471
                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                  AGGCTCCCTCTGTTTCGGGACTGGATCAAA
                                                                                                                                                                                                                                                                                                                                                                                             LysValIleAsnTyrIleProTrpIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAGCGCCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCAC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                           GGTGTGGTGAGCTGGGGAGAC---GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----CCCTTCTTCAATGACTTCACCTTCGACTAT 2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn
                                                                                                                                                                                                                                                 (first
            /*tag= a
/product= "Human transmembrane serine protease
/profuct= "Human transmembrane serine protease
/mote= "CDS does not include start codon"
                                                                     Location/Qualifiers
1865..2590
/partial
                                                                                                                                                                                                                                                                                                          DNA;
                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                            3147
                                                                                                                                                                                                                                                                                                            ΒP
                                                                                                                                                                                                                                                                                                                                                                  2572
                                                                                                                                                                                                                                                                                                                                                                                               680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----HisAsp-----
                                                                                                                                                                                                                      DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                           2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      630
                                                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2212
```

```
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                     В
             멍
                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-874-198-2 (1-686) x AAD13155 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P X X P R R R P R R R P R R R P R R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R R P R P R R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P R P 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity:
Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to transmembrane serine proteases and their corresponding nucleotides and the protease domain of a type-II membrane-type serine protease (MTSP). MTSP is useful for identifying compounds that modulate or inhibits its proteolytic activity and for formulating a medicament for treating neoplastic disease. MTSP and its corresponding nucleotides are useful in preventing or treating tumours or cancers such as lung carcinoma, colon adenocarcinoma and ovarian carcinoma, in diagnostics and in hybridisation assays. MTSP is useful as a diagnostic marker for tumour development, growth and/or progression and as immunogens to generate antibodies that specifically bind to it. MTSP DNA is useful in a yeast two-hybrid system and in gene therapy. The present sequence is a DNA encoding protease domain of human MTSPl protein (also called matriptase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel single chain polypeptide comprising protease domain of type-II membrane-type serine protease or its catalytically active portion useful for treating and preventing cancer and tumor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-FEB-2000; 2000US-0183542.
22-JUN-2000; 2000US-0213124.
26-JUL-2000; 2000US-0220970.
08-SEP-2000; 2000US-0657986.
22-SEP-2000; 2000US-0234840.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3147 BP; 654 A; 952 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AAE06936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-488877/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Madison EL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200157194-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 6; Page 225-227; 256pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CORV-) CORVAS INT INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-FEB-2000; 2000US-0179982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-FEB-2001; 2001WO-US03471.
926 AACCTGACCTTCCACTCCTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                      821
                                                                                                                                                                                                                                                                                                                                                                                                 761 GCCCTGCGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48
                                                                                                                                                                                                            85
                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu 67
                                                             LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                     CCCCACGCCCTGGTGCAGTTGTGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp 47
                                                                                                                                                                                                                                                                   TCCTGCGACGAGCGCGGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCCATGGAG
                                                                                                                                                                                                                                                                                                                             LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys------
                                                                                                                                                                          --ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ong EO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.35e-30
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yeh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               958 G; 583 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3147
186
90
270
184
31
                                                                                                                                     925
                                                                                                                                                                                                                                                                   880
                                                                                                                                                                                                                                                                                                                                                                                                 820
                                                                                                                                                                                                                                                                                                                                    84
```

Qy 434 CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro 453	_
Db 1802 AGCGACGGCTCAGATGAGAAGGACTGCGAC 1831	
Qy 414 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433	
Db 1745 CTCAATGGGCTCTGGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGAGGAGGACTGT 1801	
Qy 397 GluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGlu 413	
Db 1706 GTGAACGTCGTCACTTGTACCAAACACACCCTACCGCTGC 1744	
1040 CANCHOTOCANTONOMANOSACOACTOTOCOS CONTROL TO TOTAL CO	
365	
Db 1586 GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC 1645	
Qy 360 AlaCysSerIleVal 364	
Db 1535 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGACGAGCAG 1585	
Qy 345 ThralaValCysGlnLys	
Db 1475 AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC 1534	
Qy 325 SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe 344	
Qy 319 IleLeuLysAspSerPhe 324	
Db 1376 CCATGCCCG	
Qy 299 ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318	
Qy 281 AspGluSerGlyAspHisThrGlyTrpLySIleHisTyrThrSerThrAlaGln 298     :::        :::	
1256 GAGAGGTCCCAGTTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA	
261 LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr	
Db 1211 TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAATACTGCGGA 1255	
Oy 241 CysproTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly 260	
Db 1151 CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGGGGTGCCTGCGGGCACC 1210	
Qy 222 SerVallleLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu 240	
Db 1091 CCAGGCCACTACCCCACCCAACATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG 1150	
Qy 202 ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe 221	
Db 1043GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCTACTAC 1090	
Qy 182 AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201	
Db 1042 1042	
Qy 162 GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181	
Db 1040 TGT 1042	
Qy 142 CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161	
Db 986 CGGCGGCATCCCGCCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 1039	
Qy 123 ASnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGlu 141	

```
ARESULT 21
AAA123601
ID AAA123
XX
AC AAA123
XX
DT 03-AU
DT 03-AU
XX
DT Human
XX
Human
XX
Human
XX
Human
XX
Homo
XX
FH Key
FT CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1832
                                                                                                                                                                                      03-AUG-2001
                                                                                                                                                                                                                       AAH23601;
                                                                                                                                                                                                                                                      AAH23601 standard;
                                                                                                                                                                                                                                                                                                                        2543
                                                                                                                                                                                                                                                                                                                                                                                          2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                           651
                                                                                                                                                                                                                                                                                                                                                                                                            GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAGCGCCCCTGGGGTGCAGGGCAGGCTCAAGCGCATCATCTCCCAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGGCACGGATGCGGATGAG
                                                                   sapiens
                                                                                                                                                                                                                                                                                                                        AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2572
                                                                                                                                                                                                                                                                                                                                                      LysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGGCCCAGGGCCACATCTGCGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyAspPheProTrpGlnValLeuIle-----LeuGly---GlyThrThrAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                          GGTGTGGTGAGCTGGGGAGAC - - - GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCCTCATCTCCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA
                                                                                                                                                     TADG-15
                                                                                                   antigen-derived
                                                                                                                                                                                    (first
                                                                                                                                                   coding sequence.
                                                                                                   cytostatic; vaccine; ovarian tumour;
derived gene 15; extracellular serine
                 Location/Qualifiers 23..2590
/*tag=
                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                        3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>=</u>
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----HisAsp-----
                                                                                                    protease;
                                                                                                    ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1891
                                                                                                                                                                                                                                                                                                                                                                                          2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                489
                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment
Pred. No.:
                                                                                 В
                                                                                                                δÃ
                                                                                                                                                   망
                                                                                                                                                                               δÃ
                                                                                                                                                                                                                     рь
                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-874-198-2 (1-686) x AAH23601 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence is the coding sequence for human tumour antigen-derived gene 15 (7ADG-15) protein. TADG-15 is an extracellular serine protease. It was found that TADG-15 is over-expressed in ovarian tumours. TADG-15 protein or its fragments of 9-20 residues that lack TADG-15 protease activity are useful for vaccinating an individual against TADG-15, having, suspected of having or at risk of getting cancer. Furthermore, the TADG-15 gene can be used as a diagnostic or therapeutic target in cancer.
                   1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel extracellular serine protease, termed tumor antigen-derived 15 protein overexpressed in carcinomas and DNA encoding it, for diagnosis, treatment, prevention of cancer, particularly breast,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O'Brien TJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 2; Fig 2; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AAB98500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPT; 2001-381031/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200129056-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYAR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-OCT-2000;
                                                    142
                                                                                                                                                     926
                                                                                                                                                                                    103
                                                                                                                                                                                                                                                                                       821
                                                                                                                                                                                                                                                                                                                                                         761
                                                                                                                                                                                                                                                                                                                                                                                                                          701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No . :
                                                                                                                                                                                                                                                                                                                                                                                         48
                                                                                                                                                                                                                                                      85
                                                                                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                                                                                                                                                                                         29
                   TGT --
                                              CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                          LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                     CCCCACGCCCTGGTGCAGTTGTGTGGC--
                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                        CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp 47
                                                                                                          AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu
                                                                                                                                                     AACCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                       TCCTGCGACGAGCGCGGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCATGGAG
                                                                                                                                                                                                                                                                                                                   LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                                         GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                     -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VINU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tanimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARKANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000WO-US29095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 654 A; 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0421213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product= "Human TADG-15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.35e-30
490.00
37.81%
25.48%
13.04%
                                                                                     GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            583
                                                                                                                                                                                                                       ----ACCTACCCTCCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ή,;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3147
186
90
270
184
31
                                                                                     1039
                                                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                                                                        84
```

Qy Дb

망

Db

QΥ В 24

QΥ

DЬ

Qy В QΥ δÃ DЪ Ωy DЬ QΥ DЪ

밁 Qy 밁

```
В
                                                                                                                                     á
                                                                                                                                                                                                     9
                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    дЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
   Ş
                                   DЪ
                                                                δÃ
                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                멍
                                     1892
                                                                                                         1832
                                                                                                                                                                          1802
                                                                                                                                                                                                                                                                                                            1706 GTGAACGTCGTCACTTGTACCAAACACACC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1042
                                                                                                                                                                                                                                         1745 CTCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGAGGACTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1535 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1316 GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1151 CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC
                                                                                                                                                                                                                                                                                                                                                                            1646 CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGTCCGACGAGGCCTCCTGCCCCAAG
                                                                                                                                                                                            414 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433
                                                                                                                                                                                                                                                                            397
                                                                                                                                                                                                                                                                                                                                                377
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1586
                                                                       454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              345 ThrAlaValCysGlnLys------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         319 IleLeuLys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222
   471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 AlacysSerIleVal------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly 260
                                                                                                                                                                                                                                                                                                                                                                                                                  365
                                                                                                                                                                                                                                                            GluGluThrPheTyrThrMetLysValAsn------AspGlyLysTyrValCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAA---
                                                                                                                       CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----ThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGAGGTCCCAGTTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGGCCACTACCCACCCAACATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
                              GCCGAGTGCCCTGCCAGGTAAGCCTGCATGCTCTGGGCCAGGGCCACATCTGCGGTGCT
                                                                GlyAspPheProTrpGlnValLeuIle-----LeuGly---GlyThrThrAlaAlaGly
                                                                                                 TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGGCACGGATGCGGATGAG
                                                                                                                                                                                                                                                                                                                                         ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCATGCCCG-------GGGCAGTTCACGTGCCGCACGGGGGGGGTGT 1414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer
                                                                                                                                                                       AGCGACGGC-----TCAGATGAGAAGGAC----TGCGAC----
                                                                                                                                                                                                                                                                                                                                                                                                            ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACAGCGATGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----TACTGCGGA
                                                                                                                                                                                                                                                                                                         ----TACCGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----AspSerPhe
                                                                                                                                                                                                                                                                                                                                                                            1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1315
                                                                                                                                                                       1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1042
                                                                                                                                                                                                                                                                                                                                                                                                            376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        д
2543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1952 TCCCTCATCTCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA
                                                                                                                                                                                         TADG-15; cytostatic; vaccine; ovarian tumour; cancer; tumour antigen-derived gene 15; serine protease; ss.
                                                                                                                                                                                                                                                                03-AUG-2001 (first entry)
                                                                                                                                                                                                                                                                                                                         AAH23609 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                      2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2327
                                                                                                                                        WO200129056-A1
                                                                                                                                                                                                                                    Human TADG-15 antisense RNA sequence
                        (UYAR-) UNIV ARKANSAS
                                                      20-OCT-1999;
                                                                                 20-OCT-2000; 2000WO-US29095
                                                                                                             26-APR-2001.
                                                                                                                                                                                                                                                                                                                                                                                                671 LysVallleAsnTyrIleProTrpIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAsp1le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGCTCCCTCTGTTTCGGGACTGGATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGTGGTGAGCTGGGGAGAC - - - GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAGCGCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCCAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                    99US-0421213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----CCCTTCTTCAATGACTTCACCTTCGACTAT 2152
                                                                                                                                                                                                                                                                                                                         RNA;
                                                                                                                                                                                                                                                                                                                         3147
                                                                                                                                                                                                                                                                                                                         ВР
                                                                                                                                                                                                                                                                                                                                                                                                           680
                                                                                                                                                                                                                                                                                                                                                                               2572
                                                                                                                                                                                                         human;
                                                                                                                                                                                                         antisense;
                                                                                                                                                                                                                                                                                                                                                                                                                                     2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2326
```

O'Brien TJ,

Tanimoto

```
Дb
                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                             망
                        Š
                                                                    밁
                                                                                                        QΥ
                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                     QΨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCCCCCXXX PTTXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                               dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x AAH23609 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to human tumour antigen-derived gene 15 (TADG-15) protein and coding sequence (see AH23601 and AAB98500).

TADG-15 is an extracellular serine protease. It was found that TADG-15 is over-expressed in ovarian tumours. TADG-15 protein or its fragments of 9-20 residues that lack TADG-15 protease activity are useful for vaccinating an individual against TADG-15, having, suspected of having or at risk of getting cancer. Furthermore, the TADG-15 gene can be used as a diagnostic or therapeutic target in cancer. TADG-15 was cloned and expressed in the opposite orientation such that an antisense RNA molecule the present sequence) was produced. The present sequence is useful for ybridising to the complementary RNA in a cell and thereby inhibiting ranslation of TADG-15 into protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel extracellular serine protease, termed tumor antigen-derived gene 15 protein overexpressed in carcinomas and DNA encoding it, for diagnosis, treatment, prevention of cancer, particularly breast, ovarian cancer
                                                                                                                                                                                                                                                                                                                               2162
                                                                                                                                                                                                                                                                                                                                                                                                               2222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-381031/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3147 BP; 583 A; 958 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 8; Page 102-103; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                       123
                          202
                                                                                                                                                                                                                                                                                                                                                                                                                                                         103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48 ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                  GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTTCACCACGCCCGGCTTCCCTGACAGCCCCTACCCGCTCATGCCCGCTGCCAGTGG
                      ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe 221
                                                                                                          AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201
                                                                                                                                                                                                                                                                                 CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                           CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 2109
                                                                                                                                                                                                                                                                                                                                                                   AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu 141
                                                                                                                                                                                                                                                                                                                                                                                                               AACCTGACCTTCCACTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG 2163
                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCCACGCCCTGGTGCAGTTGTGTGGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCTGCGACGAGCGCGGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCCATGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG 2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.35e-30
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         952 G;
Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----ACCTACCCTCCCTCCTAC 2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         654 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3147
186
90
270
184
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
```

1026		3
511	erAlaLeuAspIleArgMetGlyThrLeuLysAr	Qy
1077	1136 TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG	Дb
491	isAsp	Qy
489 1137	471 AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys	Qу Дъ
		Db &
470	haspPheProTrpGlnValLeuTleLeuGlvGlvThrThrAlaAlaGlv	0 0
nω	434 CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro	P Oy
iu i	:::        agcgacggcTGCgatgagaaggagTGCgac	B 5
1347	TCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGAGGACTGT TAASNG   VPhoTroThrSerSerTvsG   VG     ILVSSerTellDrOVa   CvsG     IDroVa	Db Db
413	LysValAsnAspGlyLysTyrValCysGlu 	Qy
1404	1442 GTGAACGTCGTCACTTGTACCAAACACACCTACCGCTGC	Db
396	alGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys	Qy
1443	GGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG	Дb
376	spCysGlyProProAspAspLeuProSerGlyArg	Qy
1503	  GCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCCAATGGGAAGTGCCTCTCGAAAAGC	Дb
364	erIleVal	Qy
1563	1613 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG	DЪ
359	ysAspGlySerTrpAspArgProMetPro	Qy
344 1614	325 SETILEPRECYSCLUTRICITYTYTCILLEULEULGINGLYH.SLEUPFOLEULYSSETPRE :::	Db Qy
٠ ٥	33 APCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACAGCGATGAGCTC	ga
24	319 IleLeuLys	Qy
1734	CATGCCCGGGGCAGTTCACGTGCCGCACGGGG	Db
318	lyHisValSerProValGlnAlaLysTyr	Qy
1773		Db
298	.spGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGln	Qy
80	92 GAGAGGTCCCAGTTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA	Db x
280	261 LysThrLeuProHisArqIleGluThrLysSerAsnThrValThrIleThrPheValThr	0
8		Db
60	241 CvsProTvrAssPheLeuLvsI]eGlnThrAssArgGluGluHisGlvProPheCvsGlv	0 0
1938	222 SELVALLIELEUNSPRIEVALISLUSELRIENSPVALUSILITIE   TELUSILIELEUN   1   1   1   1   1   1   1   1   1	D 4
<b>.</b> .	7) CLABBCCACTACCCACCAACAIIBACIBCACAIBBAACAIIBAACIIIBACIBCACAACAACCAB	

```
AAA88492
ID AAA8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                             BXD
                                                                                                                                                                                                                                                                                                                                                                                 ΧŘ
                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1025
10-MAR-2000; 2000WO-US06111
                                                                                      mat_peptide
                                                                                                                         sig_peptide
                                                                                                                                                     CDS
                                                                                                                                                                            primer_bind
                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                                                          atriptase: serine protease; human; breast cancer; pre-malignancy; ctinic keratosis; leukoplakia; Barrett's spithelium; columnar metaplasia; ulcerative colitis; bowenoid papulosis; adenomatous colorectal polyp; Oyerat erythroplasia;
                                                                                                                                                                                                                                                                                                                                         Human matriptase
                                                                                                                                                                                                                                                                                                                                                                                              AAA88492
                          14-SEP-2000
                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                   22-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                    AAA88492 standard;
                                                   WO200053232-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              651
                                                                                                                                                                                                                                                                                                                                                                                                                                              23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProTleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGCTCCCTCTGTTTCGGGACTGGATCAAA 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                 intraepithelial
                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                             /*tag= b
358..2409
                                                                                     /*tag= d
/note= "putative signal peptide"
451..2406
                                                                                                                         /*tag= c
                                                                                                                                                                                                 Location/Qualifiers complement(33..54)
                                                                                                                                                                          2843..2863
                                                                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                                                           (truncated
                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA;
                                                                         .2406
g<del>-</del> e
                                                                                                                                                                                                                                                                 neoplasia;
                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                    2955
                                                                                                                                                                                                                                                                                                                                         form) cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----CCCTTCTTCAATGACTTCACCTTCGACTAT
                                                                                                                                                                                                                                                                tumour; metastasis; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        882
```

```
밁
                               δÃ
                                                                   ₽
                                                                                                   Š
                                                                                                                                          В
                                                                                                                                                                          οy
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686) x AAA88492 (1-2955)
                                                                                                                                                                                                                                                                                                                                          Query Match:
                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment
                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           matriptase is present mainly as the uncomplexed form. Only the complexed matriptase in detected in human milk. The invention is directed to a method of detecting a malignancy or a pre-malignant lesion in breast or other tissue by detecting the presence of single- or 2-chain forms of matriptase in the tissue. The object is to inhibit tumour onset, tumour growth and metastasis. Walignancies and pre-malignant conditions characterised by expression of the zymogen or activated form of matriptase are treated by administering an inhibitor of matriptase, especially a Bowman-Birk inhibitor. The pre-malignant condition is attypical ductal hyperplasia of the breast, actinic keratosis, leukoplakia, and pre-matrip and the present of the condition of the esophagus, ulcerative colitis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Either form can be incorporated into a vector and used in a claimed method for making recombinant matriptase. The zymogen (inactive) form of matriptase is a single-chain protein. The active 2-chain form strongly interacts with fragments of a Kunitz-type serine protease inhibitor (hepatocyte growth factor activator inhibitor, HAI-1) to form SDS-stable complexes. In breast cancer cells,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (see AAB19551) of human matriptase, a trypsin-like protease. The cDNA was isolated from T-47D human breast cancer cells by RT-PCR amplification using primers (see AAA88496-97) based on SCN19 cDNA. cDNA encoding the full-length form of matriptase is given in AAA88493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      subject,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     neoplasia or dysplatic changes to the cervix. The invention also provides methods for in vivo or in vitro diagnosis of malignancy or pre-malignant lesion, and methods of identifying matriptase modulators, including activators and inhibitors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         adenomatous colorectal polyps, erythroplasia of the Queyrat, Bowen's disease, bowenoid papulosis, vulvar intraepithelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 9; Fig 9; 116pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AAB19551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-594268/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dickson RB, Lin C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is that of cDNA coding
                                                                                                                                                                                                                                                                                                                                                                                                                   NO. :
                                                                   640
                                                                                                                                          580
                                                                                                                                                                                                                  520
                                                                                                                                                                              48
                                                                                                       89
                                                                                                                                                                                                                                                   29
CCCCACGCCCTGGTGCAGTTGTGTGGC--
                                                                                                                                                                          ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu 67
                                                                                                                                        GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                              CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCTACCCCGGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                 ArgLeuAlaSerProGlyPhePro···GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                               -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                   LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      malignancies, premalignant comprises administering mat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9905-0124006
                                                                                                                                                                                                                                                                                                                       4.5e-30
488.00
37.81%
25.48%
12.99%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    602 A; 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      matriptase modulating agent
                                                                                                                                                                                                                                                                                                                                                                                              Matches:
                                                                                                                                                                                                                                                                                                                                                          Mismatches:
                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                      Indels:
                                                                                                                                                                                                                                                                                                                                                                           Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>د</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Enyedy
----ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ţ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     other;
                                                                                                                                                                                                                                                                                                                       2955
186
90
270
184
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the truncated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       conditions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                form
The
                                                                                                       84
                                                                                                                                        639
                                                                                                                                                                                                              579
                                                                                                                                                                                                                                                   47
```

433	14 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal	ОУ
1620	4 CTCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAG	Ъ
413	97 GluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGlu	Qу
1563	TGAACGTCGTCACTTGTACCAAACACACCTACCGCTGC	Дb
396	luTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys	Qy
1524	GCAATGGGAAGGACGACTGTGGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG	Db
376	sGlyProProAspAspLeuProSerGlyArg	Qy
1464	AGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC	Db
364	erIleVal	Qy
1404	GAACGACTGCGGAGACAACAGCGACGAGCAG	ΡЬ
359	ysAspGlySerTrpAspArgProMetPro	Qy
344 1353	LeuLysSerPhe      GCAAGCCCCTC	
1293	AGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACAGCGATGAGCTC	Db
324	AspSerPhe	Qy
		Db
318	${f MetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr}$	Qy
1194	:::::: ACGACTCCAGTGAC	Db
298	ThrSerThrAlaGln	Qy
1134	TTCGCTTCCACTCA	Db
280	LysSerAsnThrValThrIleThrPheValThr	Qy
260 1074	sGly       CGGA	Qу
1029	22	DЬ
240		Qy
221 969	202 ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGlyPhe	
909	62GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCTACTAC	Db
201	aLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr :::	Qy
861		DЬ
181	$\tt eTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer$	Qy
861		Db
161	ValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly	Qy
858	C	Db
141	<pre>slyPheGluAlaPheTyrAlaAlaGluAspIleAspGlu</pre>	Qу
804	103 LYSASPITAT PHREITY SET LEUGLY SET LEUGLE LETTET PHREAT GSET AS PRINTER LETTET PHREAT GSET PHREAT GSET AS PRINTER LETTET PHREAT GSET PHREAT G	рь

X O X Z	XX	X D	X AS	RESU AAF2 ID YY	ф	Qy	Db	Qy	Db	Qy	Db	Qу	Db	Qy	Db	Qy	Db .	Qy	Db	Qy	Db	Qy	Db	Qy	DЬ	Qy	Db	Qy	Db	Qy	Db	Qy	Db
Homo	נס כ	06-ਹ	AAF2	ULT 24 28099 AAF2	2362	671	2305	651	2248	631	2188	611	2146	591	2086	572	2032	552	1972	532	1942	512	1891	492	1831	490	1771	471	1711	454	1651	434	1621
u; memorane-type serine procease; MT-SFI; cancer; ss. sapiens.	membrane-type serine protease MT-SP1 coding seque	JUN-2001 (first entry)	8099;	8099 standard; cDNA; 3142 BP.	GGGACI	LysValIleAsnTyrIleProTrpIleGlu 680	GTGTGGTGAGCTGGGGAGACGGCTGCGCTCAGAGGGAACAAGCCAGGCGTGTI	tAsnCysGlyGluAlaGlyGlnTyrGlyValTyr	GTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCG	AspSer	CGGCGTGGACTCCTG	ThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysAr	CGCGTCATCAACCAGACCACCTGCGGAAACCTCCTGCCGCAG	ValAspHisGlnLysCysThrAlaAlaTyrGluLy	-::   -::: 	YLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspI	TGCCTGCCGGACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG 2085	${\tt LeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSe}$	GACATCGCGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC 2031	spIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIl	TCACCTTCGA	spAlaGlyPheA	CGCAGCGCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCCAC 1941	LeuAspIleArgMetGlyThrLeuLysArgLe	TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG 1890	Hisasp 491	TCCCTCATCTCCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA 1830	.∵ Kr1u1	GAGTGGCCTGGCAGGTAAGCCTGCATGCTCTGGGCCAGG	yAspPheProTrpGlnValLeuIleLeuGly	TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCACGGATGCGGATGAG 1710	CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro 453	AGCGACGGCTCAGATGAGAAGGACTGCGAC 1650

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                            Вþ
                                                                                                                      Ş
                                                                                                                                                                            Qγ
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SXCCCCXBX
                                                          Š
                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores: Pred. No.:
      õ
                                 밁
                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-874-198-2 (1-686) x AAF28099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention provides the protein and coding sequences for the novel human membrane type serine protease MT-SP1. Increased expression of this protein is associated with cancer, and so the sequences can be used in cancer diagnosis and the identification of treatments. The present sequence is the MT-SP1 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 200
P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New nucleic acid encoding a membrane type serine protease, useful the diagnosis, prognosis and treatment of cancer, particularly metastatic cancers - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craik CS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                     1054
                                                                                            1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 4; Fig 1; 102pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3142 BP; 635 A; 958 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2000; 2000WO-US27250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200123524-A2
      162
                                                                                                                                                                                                                                                                                                                                                                                            715
                                                                                                                                                                                                                                                                                                                                775
                                                                                                                                                                                                                                           85
                                                                                                                                                                                                                                                                                                                                                              48
                                                                                                                                                                                                                                                                                                      89
                                                                                                                                                                                                                                                                                                                                                                                                                       29
   GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                       AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu
                                                                                                                                                                                                                            -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                       ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                      ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001-245002/25.
DB; AAB35465.
                                                            CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                  AACCTGACCTTCCACTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                            LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer
                                                                                                                                                                                                              CCCCACGCCCTGGTGCAGTTGTGTGGC----
                                                                                                                                                                                                                                                                    TCCTGCGACGAGCGCGGCAGCGACCTGGTGACCGTGTACAACACCCTGAGCCCCCATGGAG
                                                                                                                                                                                                                                                                                                 LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Takeuchi T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0410362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers 37..2602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 488.00
37.81%
25.48%
12.99%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4.88e-30
                                                                                         -GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shuman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "MT-SP1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-3142)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   965 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                             -----ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   584 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3142
186
90
270
184
31
                                                                                                                                                                               122
                                                                                         1053
                                                                                                                                                999
                                                                                                                                                                                                             939
                                                                                                                                                                                                                                                                      894
                                                                                                                                                                                                                                                                                                                               834
                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                                                   84
                                                                                                                                                                                                                                                                                                                                                                                         774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ior
                                              B
                                                                        Ş
                                                                                                     밁
                                                                                                                              Ωy
                                                                                                                                                                В
                                                                                                                                                                                          Qy
                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    명
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                          1759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1105
                                                                                                       1846
                                                                                                                                                                1816
                                                                                                                                                                                                                                                                                                                                                                                                       1600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1056
                                                                                                                                                                                                                                                                                                                                             1660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                471
                                                                                                                                   434
                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       325
                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
GlyAspPheProTrpGlnValLeuIle····-LeuGly---GlyThrThrAlaAlaGly
                                                                                                                     CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433
                                           GGCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCAGGGCCACATCTGCGGTGCT
                                                                                                    TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGGCACGGATGCGGATGAG 1905
                                                                                                                                                                AGCGACGGC - - -
                                                                                                                                                                                                                                                   GluGluThrPheTyrThrMetLysValAsn------AspGlyLysTyrValCysGlu 413
                                                                                                                                                                                                                                                                                                                                           CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGGCTCCGACGACGACGCCTCCTGCCCCAAG 1719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATGTGAAGGTGCGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGGCCACTACCCCACCCAACATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG 1164
                                                                                                                                                                                                                       GTGAACGTCGTCACTTGTACCAAACACACC------TACCGCTGC
                                                                                                                                                                                                                                                                                                              ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                                                                                                    GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAAGC 1659
                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaCysSerIleVal----
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrAlaValCysGlnLys-------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCCTC 1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACGAGCGATGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGAGGTCCCAGTTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA 1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAA------TACTGCGGA 1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyH1sLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleLeuLys--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCTACTAC 1104
                                                                                                                                                                                                                                                                                                                                                            -AspCysGlyPro---ProAspAspLeuProSerGlyArg
                                                                                                                                                                · · · · · T'CAGATGAGAAGGAC · · · · · · TGCGAC · · · · · ·
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspSerPhe
                                                                        470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1224
                                                                                                                                   453
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1599
                                                                                                                                                                1845
                                                                                                                                                                                                                       1815
                                                                                                                                                                                                                                                                                  1758
                                                                                                                                                                                                                                                                                                              396
                                                                                                                                                                                                                                                                                                                                                                        376
                                                                                                                                                                                                                                                                                                                                                                                                                                   364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                             RESULT 25
                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                   CDS
                                                                                                                                         actinic keratosis; leukoplakia; Barrett's epithelium; columnar metaplasia; ulcerative colitis; bowenoid papulosis; adenomatous colorectal polyp; Qyerat erythroplasia; vulvar intraepithelial neoplasia; tumour; metastasis; therapy;
                                                                                                                                                                                                                                                                                                                                    2557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1966
                                                                                                                                                                                                                                                                                     AAA88493 standard;
                                                                                                                                                                                                                                                                                                                                                                                 2500
                                                                                                                                                                                                                                                                                                                                                                                                                               2443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2086
                        14-SEP-2000
                                                                                                                     HOMO
                                                                                                                                                                                                                                                               AAA88493
10-MAR-2000; 2000WO-US06111
                                               WO200053232-A1
                                                                                                                                                                                        Matriptase; serine protease; human; breast cancer; pre-malignancy;
                                                                                                                                                                                                                Human matriptase cDNA
                                                                                                                                                                                                                                        22-JAN-2001
                                                                                                                                                                                                                                                                                                                                                        671 LysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            572 GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       492
                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCCTTGCACGACCCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                   AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2586
                                                                                                                                                                                                                                                                                                                                                                                GGTGTGGTGAGCTGGGGAGAC---GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA 2556
                                                                                                                                                                                                                                                                                                                                                                                                     GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                               GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAGCGCCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCCTCATCTCTCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA
                                                                                                                                                                                                                                       (first entry)
                                                                                  Location/Qualifiers 36..2603
                                                                                                                                                                                                                                                                                     cDNA;
                                                                       O
                                                                                                                                                                                                                                                                                      3149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----CCCTTCTTCAATGACTTCACCTTCGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ·HisAsp-----
                                                                                                                                                                                                                                                                                                                                                                                                      670
                                                                                                                                                                                                                                                                                                                                                                                                                              2499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2025
                                                                                                                                                                                                                                                                                                                                                                                                                                                     650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    491
                                                        Qγ
                                                                                 Дb
                                                                                                       QΥ
                                                                                                                              Db
                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                              밁
                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x AAA88493 (1-3149)
                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                            Sequence 3149 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                   modulators, including activators and inhibitors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            subject,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dickson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-MAR-1999;
                                                                                                                                                                                                                                                                                                           No.:
            103
                                   894
                                                                                 834
                                                                                                                                                                              714
                                                                                                                               774
                                                                                                        8
                                                                                                                                                       48
                                                                                                                                                                                                    29
LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                   CCCCACGCCCTGGTGCAGTTGTGTGGC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000-594268/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fig 15; 116pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lin C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEORGETOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0124006
                                                                                                                                                                                                                                                                                                                                              647 A; 959 C;
                                                                                                                                                                                                                                                  4.89e-30
488.00
37.81%
25.48%
12.99%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ï
                                                                                                                                                                                                                                                                                                                                              962 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang S,
                                                                                                                                                                                                                                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                    Conservative:
                                                                                                                                                                                                                                                                                               Matches:
                                                                                                                                                                                                                                                                                                           Length:
                                                                                                                                                                                                                                                                                                                                              581 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Enyedy
```

```
malignancies, premalignant and pathologic conditions in a comprises administering matriptase modulating agent \, -
```

neoplasia or dysplatic changes to the cervix. The invention also provides methods for in vivo or in vitro diagnosis of malignancy or pre-malignant lesion, and methods of identifying matriptase object is to inhibit tumour onset, tumour growth and metastasis. Malignancies and pre-malignant conditions characterised by expression of the zymogen or activated form of matriptase are treated by administering an inhibitor of matriptase, especially Bowman-Birk inhibitor. The pre-malignant condition is atypical ductal hyperplasia of the breast, actinic keratosis, leukoplakia barrett's epithelium of the esophagus, ulcerative colitis, protease inhibitor (hepatocyte growth factor activator inhibitor, HAI-1) to form SDS-stable complexes. In breast cancer cells, matriptase is present mainly as the uncomplexed form. Only the complexed matriptase in detected in human milk. The invention is directed to a method of detecting a malignancy or a pre-mailgnant lesion in breast or other tissue by detecting the presence of single- or 2-chain forms of matriptase in the tissue. The The present sequence is that of cDNA coding for the full-length form (see AAB19521) of human matriptase, a trypsin-like protease. cDNA encoding a truncated form of matriptase is given in AAA88492. Either form can be incorporated into a vector and used in a claimed Bowen's disease, bowenoid papulosis, vulvar intraepithelial neoplasia or dysplatic changes to the cervix. The inventic form of matriptase is a single-chain protein. The active 2-chain form strongly interacts with fragments of a Kunitz-type serine adenomatous colorectal polyps, erythroplasia of the Queyrat, for making recombinant matriptase. The zymogen (inactive) leukoplakia, a

0 other;

3149 186

GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCTACCCCGCTCATGCCCGCTGCCAGTGG TCCTGCGACGAGCGCGGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCCATGGAG LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp -ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly -ACCTACCCTCCCTCCTAC 84 47 893 833 67 773

433 1844	AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal :::	1815	р Q
1814	TCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGC	1758	망
413	AspG	397	Qy
396 1757	ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys	377 1719	Db Oy
7		1659	Db .
76	AspCvsGlvProProAspAspLeuProSer	365	ογ
364 1658	AlaCysSerIleVal	360 1599	Db Qq
1598	TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG	1548	рь
359	ysGlnLys	345	ş
1547		80 (	
4 4	Coordinates of the Control of the Coordinate of	325	8
ຸ້ິນ	LeuLys	ذ ر	ξ Q
1427	CCATGCCCGGGGCAGTTCACGTGCCGCACGGGGCGGTGT	1389	В
318	ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr	299	Qy
298 1388	AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGln	281 1329	Db Qy
ω	GAGAGGTCCCAGTTCGTCACCAGCAACAGCAACAGATCACAGTTCGCTTCCACTCA	1269	Db
280	Lys ThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr	261	οy
260 1268	CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly	241 1224	dg Qy
1223	CATGTGAAGGTGCGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC	1164	DЬ
240		222	ργ
221 1163	ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeugluGluGlyPhe	202	
1103	GAGGCCGCTTACGTAAAGCCCCAGGGGACATTCAACAGCCCCTACTAC	1056	Вb
201	AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr	182	Qy
1055		1055	В
181	${\tt GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer}$	162	Qy
1055	TGT	1053	Db
161	CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly	142	δ
1052	CGGCGGCATCCCGGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC	999	Db
141	AsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGlu	123	Qγ
866	AACCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG	939	В

	AGGCTCCCTCTGTTTCGGGAC	b 2556	ŏ
		y 671	×
670 2555	GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr 	y 651 b 2499	₽ ₹
650 2498	GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly	y 631 b 2442	γį
630 2441	SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg 	y 611 b 2382	₽ ₹
610 2381	ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly	y 591 b 2340	₽ ₹
590 2339	2 GlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspIle :::	y 572 b 2280	7 8
571 2279	<pre>CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer          :::   TGCCTGCCGGACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG</pre>	y 552 b 2226	₽ ₹
551 2225	AspIleAlaLeu             GACATCGCGCTG	y 532 b 2166	₽ ₹
531 2165	? AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 	y 512 b 2136	₽ ₹
511 2135	2 AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln	y 492 b 2085	₽ ₹
491 2084	TTCAGGTACTCAGACCC	y 490 b 2025	₹ ₹
489 2024	AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys	y 471 b 1965	₽ ₹
470 1964	GlyaspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGly	y 454 b 1905	₽ ₹
453 1904	CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro         	y 434 b 1845	ž ž

Search completed: January 23, 2003, 22:32:16 Job time : 415 secs

<del>5</del>	•		
, °'			
; ;			
			•

Copyright

GenCore version (c) 1993 - 2003

n 5.1.3 Compugen

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                     Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                              Command line parameters:

-MODEL-frame+p2n.model -bEV=xlp
-Q-/Ggn2_1/USPTO_Spool_US09874198/runat_22012003_085001_10913/app_query.fasta_1.839
-DB-Issued_Patents_NA -QFMT-fastap -SUFFIX=p2n.rni -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS-bits -START-1 -END--1 -MATRIX-blosum62 -TRANS-human40.cdi
-LIST-75 -DOCALIGN=200 -THR_SCORE-pct -THR_MAX=100 -THR_MIN=0 -ALIGN=25
-MODE-LOCAL -OUTFMT-pto -NORM-ext -HEARSIZE-500 -MINLEN=0 -MAXLEN=200000000
-USER-US09874198_eCGN_1_1_31_@runat_22012003_085001_10913 -NCPU=6 -TCPU=3
-NO_XLPXY -NO_MMAP -LARGEQUERY enus_SCORES-0 -WAIT -LONGLOG -DEV_TIMEOUT=120
-WARN_TIMEOUT=30 -THREADS-1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6 -FGAPEXT=7
-YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      on:
       1110
1211
1211
1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shed:
                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance score greater than or equal to the score of the result and is derived by analysis of the total score distribut
                                                                                                                                                                                    Score
     1412
490
490
470.5
470.5
470.5
470.5
470.5
470.5
470.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xgapop 10.0 , X
Ygapop 10.0 , X
Fgapop 6.0 , E
Delop 6.0 , F
                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                            Issued_Patents_NA:*
1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/1/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-874-198-2
3758
1 MRLLTLLGLLCGSVATPLGP......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
  441362 segs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   January 23, 2003, 22:24:46 ; Search time 79 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      satisfying
                                                                                                                                                                                    Length
  2492
3147
3147
3147
3448
3448
3448
4182
4182
4182
2900
                                                                                                                                                                                       DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   153338381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xgapext
Ygapext
Fgapext
Delext
US-09-381-779-1
US-09-027-337-1
US-09-644-600-1
US-09-644-600-1
US-09-644-600-1
US-08-296-014A-3
US-08-296-014A-1
US-08-87-620-3
US-08-87-620-3
US-08-87-620-1
US-09-715-994-1
US-09-027-337-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chosen
                                                                                                                                                                                       H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      summaries
                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (without alignments)
2663.041 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .GVYTKVINYIPWIENIISDF
                                                                                                                                                                                                                                                           distribution
Sequence
                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                    to have a being printed
Appli
```

```
14 411 10.9 3919 2 US-09-644-600-9 Sequence 9, Appl. 16 411 10.9 3919 2 US-09-212-73-4 Sequence 4, Appl. 16 411 10.9 3919 2 US-09-201-73-4 Sequence 4, Appl. 17 411 10.9 3145 3 US-09-214-73-1 Sequence 1, Appl. 17 411 10.9 5145 3 US-09-214-73-1 Sequence 1, Appl. 18 411 10.9 5145 3 US-09-214-73-1 Sequence 1, Appl. 19 410 10.9 3690 3 US-09-214-73-1 Sequence 1, Appl. 19 410 10.9 3690 3 US-09-214-73-1 Sequence 1, Appl. 19 410 10.9 3690 3 US-09-214-73-1 Sequence 1, Appl. 19 410 10.9 3690 3 US-09-214-73-1 Sequence 1, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 16, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 17, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 2, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 2, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 2, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 2, Appl. 19 410 10.9 3690 1 US-09-22-101-6 Sequence 2, Appl. 19 410 10.9 3690 1 US-09-22-101-2 Sequence 2, Appl. 19 410 1 US-09-
```

იი

## ALIGNMENTS

o

```
RESULT 1
US-09-381-779-1
Sequence 1, Application US/09381779
Patent No. 6190868
GENERAL INFORMATION:
APPLICANT: Rothberg, Jonathan M.
```

```
Qy
                                                                                                           В
                                                                                                                                         Qy
                                                                                                                                                                              В
                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
 δõ
                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-874-198-2 (1-686) x US-09-381-779-1 (1-2492)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-381-779-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; SOFTWARE: PatentIn Ver.
SEQ ID NO 1
; LENGTH: 2492
; TYPE: DNA
; ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Deem, Michael W.
APPLICANT: Simpson, John W.
TITLE OF INVENTION: METHOD FOR IDENTIFYING A NUCLEIC ACID SEQUENCE FILE REFERENCE: Cura-8 US 15966-508
CURRENT APPLICATION NUMBER: US/09/381,779
CURRENT FILING DATE: 1999-09-23
PRIOR APPLICATION NUMBER: U.S.S.N. 60/054,887
PRIOR APPLICATION NUMBER: PCT/US98/16548
PRIOR APPLICATION NUMBER: PCT/US98/16548
PRIOR FILING DATE: 1998-08-07
NUMBER OF SEQ ID NOS: 5
SOFTWARER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             t Similarity:
Local Similarity:
                                     646
                                                                         186
                                                                                                                                              166
                                                                                                                                                                                  526
                                                                                                                                                                                                                      149
                                                                                                                                                                                                                                                         466
                                                                                                                                                                                                                                                                                           131
                                                                                                                                                                                                                                                                                                                               406
                                                                                                                                                                                                                                                                                                                                                                 116
                                                                                                                                                                                                                                                                                                                                                                                                      346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO.:
206 ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            286 TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAAGGTTCTGTGGGCAACTGGGTTCT 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 ---CCCATC------CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCTCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16 ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe 35
                                                                                                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ب
                                                                 GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr 205
                                                                                                         GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr 95
                                   AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                                                   -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys 165
                                                                                                                                                                                                                                                                                                                                                  ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe 130
{||||| :::|||:::|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp 75
                                                                                                                                                                                  GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                        CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                                                                                                                                                                                                                                                                             ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                      CCACTGGGCAACCCCCCGGGAAAGAAGAAGTTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                      AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys------GlySerValAla 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.32e-135
1412.00
56.73%
41.75%
37.57%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2492
301
108
248
64
22
                                                                                                                                                                                                                                                                                                                               465
                                                                                                                                                                                                                                                                                                                                                                                                      405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     225
                                                                                                                                                                                  585
                                                                                                                                                                                                                                                         525
```

226 AspPheValGluSer 226 AspPheValGluSer 226 AspPheValGluSer 246 LeuLysileGlnThr 246 LeuLysileGlnThr 246 LeuLysileGlnThr 246 LeuLysileGlnThr 246 LeuLysileGlnThr 246 LeuLysileGlnThr 246 ArgTTCCTGGAGCCT 246 ArgTTCCTGACATCTATGCC 246 ArgIleGluThrLys 246 CTACAGATCTATGCC 246 ArgIleGluThrLys 246 CTACAGATCTATGCC 248 HisThrGlyTrpLys 246 AGCCGGGGCTGGAAG 345 CTAGACGAGTTCACC 325 SerIlePheCysGlu 1106 ATTGCTACCTGCAAG 345 ThrAlaValCysGln 1126 AGCCGGTGTACCTGCAAG 345 ThrAlaValCysGln 1126 ACAGCTGTCTGCCAAG 346	γQ	da		Qy Db	Qy Db	Оу Ор	Qy Db	Qy Db	dd VQ	Qy Db	Qy Db	Qy Db	Qy Db	Qy Db	Db Qy	Qy Db	Qy Db	Qy dd	Qy Db	Db
pehevalcluserpheaspvalGluThrHisproGluThrLeuCysProTyrAspPhe 2	4	171	52	₽	_	47 154	148	43 142	41 136	130	ш	36 118	ш	32 106	30 100	28	26 88	24 82	22 76	70
	Instrument	AGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCTG 1	laGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle 5	roHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp 5	SerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSer 5 :::::      ::: ::   aCGCCTCTTTGGATGTGTTCCTGGGCCACACAAATGTGGAAGAGCTCATGAAGCTAGGA 1	<pre>spAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla 49       :::    :::     </pre>	spPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr 47 ::               acTTCCCCTGGCAGGTGTTCACCAACATCCACGGGCGGGGGGGG	LeuSerAlaargThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly 45 	pThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly 43 	alAsnaspGlyLysTyrValCysGluAlaAspGlyPhe 4	luGluThrPheTyrThrMetLys 4     :::       ::: ATGAGCCATATTACAAGATGCAG 1	<pre>spCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly 3         </pre>	rAlavalCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal 36 	erlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe 34    :::    :::   :::  :::  :::    TIGCTACCTGCAAGCAAGCTACAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTTC 11	roProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe 32 :::	<pre>isThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla 30           :::       :::          </pre>	rgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp 28 ::::::	euLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis 26    :::    :: ::                     TACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC 88	pPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe       24	

밁

1771

GGTCCCAACCTCCTCCCCATCTGCCTTCCT-----GACAACGATACCTTCTACGACCTG

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
    밁
                              δÃ
                                                               밁
                                                                                         Ş
                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-027-337-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                    US-09-874-198-2 (1-686) x US-09-027-337-1 (1-3147)
                                                                                                                                                                                                                                                                                               Pred. No.:
                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TAGG-15: An Extracellular Serine Protease (
TITLE OF INVENTION: Breast and Ovarian Carcinomas
FILE REFERENCE: D6064
CURRENT APPLICATION NUMBER: US/09/027,337B
CURRENT APPLICATION NUMBER: US/09/027,337B
CURRENT FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 13
SEQ ID NO 1
LENGTH: 3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/09027337B Patent No. 5972616
                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1924
                                                                                                                                                                                                                                                                                                                               ATURE:
CATION: 23..2589
THER INFORMATION: CDNA sequence
0-027-337-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                                                                                                     RGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              605
    821
                                                                                                                            701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                               761
                                   83
                                                                                              48
                                                                                                                                                         29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG
                                                                               ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGATAGTGGGGGGCTTTTTGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn
 TCCTGCGACGAGCGCGCACCTGGTGACGGTGTACAACACCCTGAGCCCCATGGAG
                            LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                           GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                       CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                    ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProProTyrProArgGlySer-------ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGAGGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                  2.89e-40
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                          of TADG-15
                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                  3147
186
90
270
184
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Overexpressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2154
880
                               84
                                                            820
                                                                                                                         760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1881
                                                                                         67
                                                                                                                                                      47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in
                                                                                                      Ş
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                 밁
                                                                         밁
                                                                                                                                      밁
                                                                                                                                                               δÃ
                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1151
                                                                                                                                                                                                                                                                                                                         1415
                                                                                                                                                                                                                                                                                                                                                                                    1376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1091
                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                  299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGAACGTCGTCACTTGTACCAAACACACC----
                                                                                                                                                                                                                                                                                                                                                                                  CCATGCCCG------GGGCAGTTCACGTGCCGCACGGGGGGGTGT 1414
                                                                                                                                                                                                                                                                                                                                                                                                     ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGAGGTCCCAGTTCGTCACCAGCAACAGCAACAGATCACAGTTCGCTTCCACTCA 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCCACGCCTGGTGCAGTTGTGTGGC-----
                                                                         CAGCAGTGCAATGGGAAGGACGACTGTGGGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG
                                                                                                                                    GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC 1645
                                                                                                                                                                  AlaCysSerIleVal--
                                                                                                                                                                                                 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG.-----
                                                                                                                                                                                                                  AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC
                                                                                                                                                                                                                                                                                         SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                    IleLeuLys------AspSerPhe 324
                                                                                                                                                                                                                                                                                                                                                                                                                                               GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC 1375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----ThrAlaGln
||||:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAA-----TACTGCGGA 1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluH1sGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGGCCACTACCCCACCCAACATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACCTGACCTTCCACTCCTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                         ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                         ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCACCACCACGGATGAGCTC 1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCCTACTAC
                                                                                                      ----AspCysGlyPro---ProAspAspLeuProSerGlyArg
               -TACCGCTGC
                                                                                                                                                                                                                                                            1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1039
                                            396
                                                                                                                                                                                                 1585
                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1090
                                                                                                                                                                                                                                                                                         344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                  364
```

```
US-09-644-600-1
                                                                                                                                                Дb
                                                                                                                                                                        Q
                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                  RESULT 3
                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TADG-15: An Extracellular Serine Protease
TITLE OF INVENTION: Overexpressed in Carcinomas
                                                                        Sequence 1, Application US/09644600 Patent No. 6451500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1952
                                                                                                                                                2543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1745
                                                                                                                                                                                                                                                                                                                                                                                 2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          490
                                                                                                                                                                        LysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433
                                                                                                                                              AGGCTCCCTCTGTTTCGGGACTGGATCAAA
                                                                                                                                                                                                                   GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCAGCGCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCCAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCCTCATCTCCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA 2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyAspPheProTrpGlnValLeuIle···-·LeuGly---GlyThrThrAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                      GGTGTGGTGAGCTGGGGAGAC----GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                             GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                        {\tt GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyalgluBeta} \\
                                                                                                                                                                                                                                                                                                                        CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                              CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG-----
                                                                                                                                                                                                                                                                                                                                                                                                        ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCGAGTGGCCTGGCAGGTAAGCCTGCATGCTCTGGGCCCAGGGCCACATCTGCGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCACGGATGCGGATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCGACGGC-----TCAGATGAGAAGGAC----TGCGAC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCAATGGGCTCTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGAGGACTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyrValCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------CCCTTCTTCAATGACTTCACCTTCGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HisAsp-----
                                                                                                                                                                                                                                 670
                                                                                                                                                                                                                                                                                                                                                                                                           610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                       2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1891
                                                                                                                                                                                                                                                                                                                       2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   489
                                                                                                                                                                                                                                                                                          650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 511
                           Qy
                                                         Вþ
                                                                                  Ωy
                                                                                                                  В
                                                                                                                                           Qy
                                                                                                                                                                        Дb
                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                         1151
                                                                                                                                                                         1043
                                                                                                                                                                                                                                 1042
                                                                                                                                                                                                                                                                                          1040
                                                                                                                                             202
                                                                                                                                                                                                                                                             162
                                                                                                                                                                                                                                                                                                                                                   986
                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                                                                                                                                                                                                      103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29
```

```
CURRENT APPLICATION NUMBER: US/09/644,600
CURRENT FILING DATE: 2000-08-23
PRIOR APPLICATION NUMBER: 09/421,213
PRIOR FILING DATE: 1999-10-20
PRIOR APPLICATION NUMBER: 09/027,337
PRIOR FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 98
SEQ ID NO 1
LENGTH: 3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-874-198-2 (1-686) x US-09-644-600-1 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-644-600-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: D6064CIP/D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                     CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC 1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scores:
                                              CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCCACGCCCTGGTGCAGTTGTGTGGC------ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAA----
                                                                                                                                                                                                              CCAGGCCACTACCCAACCATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                             ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                                                                                                                                                                                                                                                   AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysaspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCTGCGACGAGCGCGGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCCATGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                       SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity:
                                                                                                                                                                                                                                                                                                                 -GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.89e-40
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3147
186
90
270
184
31
-TACTGCGGA
1255
                                                                                                                                                                                                                                                                                                                    1090
                                                                                                                                                                                                                                                                                                                                                                                                                          1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67
```

```
DЬ
                                                                                                                                                                Q
                                                                                                                                                                                                 В
                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
     밁
                                  Ş
                                                                   밁
                                                                                               Š
                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                é
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1376
                                                                                                                                     2072
                                                                                                                                                                                                                                                                      1952
                                                                                                                                                                                                                                                                                                                                      1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1256
                                                                                                                                                                                                                                                                                                                                                                                                                                      434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                     471
                                                                                                                                                                                                                                                                                                                                                                                                         832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                        454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261
                   AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                  TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                      GlyAspPheProTrpGlnValLeuIle-----LeuGly---GlyThrThrAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                               CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG
GACATCGCGCTGCAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCGACGGC-----TCAGATGAGAAGGAC----TGCGAC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GluGluThrPheTyrThrMetLysValAsn------AspGlyLysTyrValCysGlu 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC 1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaCysSerIleVal--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrAlaValCysGlnLys-------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACCACCACCATGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleLeuLys------AspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCATGCCCG-------GGGCAGTTCACGTGCCGCACGGGGCGGTGT 1414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGAGGTCCCAGTTCGTCGTCACCAGCAACAAGAACAAGATCACAGTTCGCTTCCACTCA 1315
                                                                                             {\tt AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn}
                                                                                                                                  CGCAGCGCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCAC------
                                                                                                                                                              AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                                                                                                                                                                                                                    TCCCTCATCTCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA
                                                                                                                                                                                                                                                                                                                                   GCCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCCAGGGCCACATCTGCGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                   TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCCACGGATGCGGATGAG 1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------AspCysGlyPro---ProAspAspLeuProSerGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----ThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                  CCCTTCTTCAATGACTTCACCTTCGACTAT
                                                                                                                                                                                                                                  -----HisAsp-----
                                                                                                                                                                                                                                                                                                                                   1951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1375
                                 551
                                                                2152
                                                                                                                                                                                                                                                                                                  489
                                                                                                                                                                                                                                                                                                                                                                    470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1534
 2212
                                                                                                                                2122
                                                                                                                                                                 511
                                                                                                                                                                                                  2071
                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                   2011
                                                                                                                                                                                                                                                                                                                                                                                                                                    453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          344
```

```
Š
                                                                                                            В
                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
   δõ
                                                                                                                                                                                                                                         Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-644-600-18/c
                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: US-09-644-600-18
                                                                                                                                                                                  US-09-874-198-2 (1-686) x US-09-644-600-18 (1-3147)
                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TADG-15: An Extracellular Serine Protease
TITLE OF INVENTION: Overexpressed in Carcinomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 18
LENGTH: 3147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 18, Application US/09644600 Patent No. 6451500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: D6064CIP/D
CURRENT APPLICATION NUMBER: US/09/644,600
CURRENT FILING DATE: 2000-08-23
PRIOR APPLICATION NUMBER: 09/421,213
PRIOR FILING DATE: 1999-10-20
PRIOR APPLICATION NUMBER: 09/027,337
PRIOR FILING DATE: 1998-02-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 98
                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Artificial sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: RNA
                                       2387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2543 AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2572
                                                                                                                                                                                                                                                                                                                 М
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            651
                                                                           48
                                                                                                                                                 29
     89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer|||||||||
                                     GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                            CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCTTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                              ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTGTGGTGAGCTGGGGAGAC - - - GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys---
                                                                        ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrH1sPheAspLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysValileAsnTyrIleProTrpIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                     Antisense of
                                                                                                                                                                                                                                       2.89e-40
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                       TADG-15
                                                                                                                                                                                                                                     Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    680
                                                                                                                                                                                                                      3147
186
90
270
184
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2542
                                     2328
                                                                         67
                                                                                                            2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2266
     84
```

8	2327	TCCTGCGACGAGCGCGGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCATGGAG 2	268
β δ	85 2267	ThraspThrGluargAlaProGly 1     ACCTACCCTCCCTCCTAC 2	02 223
ν	103	pThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 1	22
ઠ	2222	CCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG 2	163
δĀ	123	heThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGlu 1 	41
ф	2162	GCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 2	109
Qy	142	ValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 1	61
В	2108	2	106
Qy	162	SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 1	81
	106	2	106
	182	aLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 2	01
Вb	2105	AAGCCCAGGGGACATTCAACAGCCCCTACTAC 2	058
Qy	202	gProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe 2	21
ф	2057	AG 1	998
Qy	222	Leu 2	40
В	1997	GGGCACC 1	938
γQ	24	31y 2	60
	n u	CCCAAGGACTACGTGGAGATCAATGGGGAGAAATACTGCGGA	2 4
8 %	1892	Lystini LeuktohisargileGitürni Ysserasni'ni yallılışırı heyatini 2 :::	833
QУ	281	yTrpLySIleHisTyrThrSerThrAlaGln 2	98
В	1832	AGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC 1	773
24	299 1772	roMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 3GGGGAGTTCACGTGCCGCACGGGGGGGTGT 1	18 734
	319	uLysAspserPhe 3	24
뭥	1733	CTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACAGCGATGAGCTC 1	674
Qy	325	rIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe 3 : :	44
В	1673	TGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCCTC 1	614
Ωy	345	ValCysGlnLysAspGlySerTrpAspArgProMetPro 3	59
В	1613	TCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG 1	563
Qγ	360	aCysSerIleVal	64
do	1562	GTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC 1	503
Ŋ	365	AspCysGlyProProAspAspLeuProSerGlyArg 3	76
ď	1502	GAAGGACGACTGTGGGGACGGGTCCGACGACGACGCCTCCTGCCCCAAG 1	443
Δy	377	ThrThrTyrLysAlaValIleGlnTyrSerCys 3	96
뭉	1442	TGAACGTCGTCACTTGTACCAAACACACCTACCGC	104

	LT 5 8-296-014A-3 quence 3, Application US/08296014A tent No. 5716834 ENERAL INFORMATION: ENERAL INFORMATION: APPLICANT: Bing, Jeak Ling APPLICANT: HO, Bow TITLE OF INVENTION: The Cloned Factor C cDNA of the	Sec Sec Pa	US US
	AGGCTCCCTCTGTTTCGGGACT	605	DЬ
	LysValIleAsnTyrIleF	671	Qy
606	GGTGTGGTGAGCTGGGGAACAGGCTGCGCTCAGAGGAACA	) 662	Db
670	GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyr	651	γQ
663	GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGATGGGCGGATCT	719	Дb
650	GlyAspSerGlyGlyAlaLeuValPheL	/ 631	Qy
720	CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCT	779	ДD
630	SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysAr	611	Ωу
780	CGCGTCATCAACCAGACCACC	821	рb
610	Prolleval	/ 591	Qу
822	GGCTGGGGACACACCCAGTATGGAGGCACTGGC	881	ДΔ
590	TrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAsp	57	Qy
882		935	Dβ
571	ysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSe	55	ν
936	GAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCAT	99	Db
551	AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrPro	, 532	Qγ
996		1025	Дb
531	AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAla	7 512	Qγ
102		1076	Db
511	laLeuAspIleArgMetGlyThrLeuLysArgLeuSerProH	49	VΩ
107	6 TTCAGGTACTCAGACCCCCACGCAGTGGACGGCCTTCCTGGGCCTTGCACGACCAGAGCCAG	113	Db
491	0Hisasp	49	Qγ
113	TCCCTCATCTCTCCCAACTGGCTGGTCTCTGCCGCACA	) 1196	Db
489	LeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnL	47	Qy
119		1256	Db
470	GlyAspPheProTrpGlnValLeuIleLeuGly-	/ 454	νQ
125	TGTGGG	) 1316	Db
453	CysGlyLeuSerAl	434	γQ
131	AGCGACGGCTCAGATGAGAA	) 1346	рb
433	AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGl	/ 414	Qγ
134	3 CTCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGACGGCCTGT	140	ДD
413	GluGluThrPheTyrThrMetLysValAsn	7 397	Qy

```
õ
                                                                                                                         밁
                                                                                                                                                      Š
                                                                                                                                                                                      В
                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                              õ
   밁
                              õ
                                                             В
                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686) x US-08-296-014A-3 (1-3448)
                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
US-08-296-014A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 248345
INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 3448 base pairs
                                                                                                                                                                                 1515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/296,014A
FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Birch, Stewart, Kolasch & Birch
STREET: 8110 Gatehouse Road, Suite 500 East
CITY: Falls Church
STATE: Virginia
                                                                                                                       1635 TATATGGACATCCAAGATCAGTTGCAGTCTGTGTGGAAAACC-----AAGTCATGTTTT 1688
                                                                                                                                                                                                                                                                                                                                                           ocal Similarity:
Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE N
HYPOTHETICAL: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 17/
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEPAX: (703) 205-8050
1749 GATCCTGGATCACTGGAAAATGGACACGCCACA---CTTCATGGACAAAGTATT----- 1799
                                                               1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                       289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Murphy, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
                         302 TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                                                                                                                                                                                                          265 HisArgIleGluThr-----
                                                                                             298 GlnPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ropology:
                                                          -----ThrIleThrPhe---ValThrAspGluSerGlyAspHisThrGly----- 288
                                                                                                                                                                                                                                             CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT 1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
18..3074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Carcinoscorpius rotundicauda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                          3.46e-38
470.50
39.63%
27.96%
12.52%
                                                                                                                                                      -----TrpLysIleHisTyrThrSerThrAla 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1781-105P
                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                         3448
151
63
185
141
26
                                                                                                                                                                                                                                                                  -LysSerAsnThrVal 274
                                                                                        -----CysPro 301
```

ОУ	ор Оу Оу	Оу Оу Ор	2 Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	ОУ ОУ ОУ	D OY	Qy Db	Оу Оу Ор	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
587 TyrValAspIleProIleValAspH1sGlnLysCysThrAlaAlaTyrGluLysProPro 6 :::   :::   2778 CAAGCTGTGCTACCTGTTGTTGCAGCCAGCACCTGTGAAGAGGGGGTACAAGGAAGCAGAC 2	48 IleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp :::	GluAlaValPheIleHisGluGlyTyrThrHisAspAlaGly	78 ValleuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIle ::::::	446 TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle	406 ASNASPG1yLYSTYrValCYSG1uAlaAspG1yPheTrpThrSerSerLySG1yG1uLys	387	379 TyrileThrGlyProGlyValThrThr	322 ASPSETPHESETILEPHECYSGLUTHTGLYTYTGLULEULGUGLIGLYHISLEUPTOLEU 1   1   1   1   1   1   1   1   1   1
2837	566 2717 586 2777	528 2597 547 2657	497 497 2477 514 2537	462 2366 277 477 2426	425 2258 445 2306	387 2150 405 2204	387 2030 387 2090	341 1859 361 1919 378 1973

288

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
 Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                           Score:
                                                                                          Alignment Scores:
Pred. No.:
                                                                                                                                                 US-08-596-405-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-596-405-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/08596405 Patent No. 5858706
                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1781-:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
TELEX: 248345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPLICANT: Ding, Jeak Ling
APPLICANT: HO, BOW
TITLE OF INVENTION: The Clon
TITLE OF INVENTION: Singapor
TITLE OF INVENTION: rotundic
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                      MOLECULE TYPE:
HYPOTHETICAL: N
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3015
                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                           ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                              FORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 3448 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    627
                                                                                                                                                                                                                                                                                                                          TYPE: nucleic acid
STRANDEDNESS: sing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 8110 Gateho
CITY: Falls Church
STATE: Virginia
                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                      ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                   FOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyGlnTyrGlyValTyrThrLysVallleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACCAGTACGGGGGCTTCACTAAAGTTAACGTTTTCCTGTCATGGATTAGGCAGTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATGCCTGCAGTGGGGACAGTGGAGGACCTTTAGTGTTTGCTGATGATTCCCCGTACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGCGGTGGGTCTTGGAAGGGATTGTCAGCTGGGGCAGTCCCAGTGGATGTGGCAAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu---AspSerGluThrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8110 Gatehouse Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                 both
                                                                                                                                                                                                                      Carcinoscorpius
                                                                                                                                                                   18..3074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Birch, Stewart, Kolasch & Birch
10 Gatehouse Road, Suite 500 East
                                                                                                                                                                                                                                                                               N
O
                                                                                                                                                                                                                                                                                              CDNA
                                                                                                                                                                                                                                                                                                                                single
 3.46e-38
470.50
39.63%
27.96%
12.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/596,405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1781-105P
                                                                                                                                                                                                                        rotundicauda
                  Mismatches:
Indels:
Gaps:
                                                     Conservative:
                                                                      Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #1
3448
151
63
185
141
26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    645
                                                                                     Qy
                                                                                                                             밁
                                                                                                                                                             Q
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                 ОÃ
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x US-08-596-405-3 (1-3448)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1635
                                                                                                                                                                                                     2307
                                                                                                                                                                                                                                                                                                                                                   2205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2031
                                                                                                                                                                                                                                       446
                                                                                                                                                                                                                                                                                                               426
                                                                                                                                                                                                                                                                                                                                                                                                                                                           388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT 1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCys 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATCCTGGATCACTGGAAAATGGACACGCCACA - - - CTTCATGGACAAAGTATT - - - - 1799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSer-----
                                                                                     ValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIle 497
                                                                                                                           CTTGCAGACCACAATATGTGGTTTCTCCAGTGTGGAGGATCTCTATTGAATGAGAAATGG
                                                                                                                                                                                                   TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle-----
                                                                                                                                                                                                                                                                                            SerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIle 445
                                                                                                                                                                                                                                                                                                                                                 TCTCAAGGCAGAAGA---TGTGACTCTAATGGAAACTGGAGTGGTCGGCCAGCGAGC--- 2258
                                                                                                                                                                                                                                                                                                                                                                               AsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLys 425
                                                                                                                                                                                                                                                                                                                                                                                                                       GTAGGGTCTCGAGCCATC-----TACACGTGCGAGTCGAGATACTACGAACTACTTGGA 2204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCACAACCCTCTACTGTGGACTTGGCTTCTAAAGTTAAACTACCTGAAGGTCATTACCGG 2150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGCCACGGTTACCCCTCCCATTAGCTAGAGCAGCCAAACCTTCCAAAAACCTAGATCC 2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---ATCAAACCCCCAAGTCGGACAAACTCGATAAGTCGTGTTGGGTCACCTTTCTTGAGG 2030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrlleThrGlyProGlyValThrThr----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCAAAGTCATCACCTGCCAAAACCCCCCT----GTACCATCATATGGTTCTGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAACTGAAACCGTAACTTGTACAACAAATGGCACATGGAGTGCTCCTAAACCTCGATGT 1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATGGGTTCTATGCTGGTTCTTCTATAAGGTACAGCTGTGAGGTTCTCCACTACCTCAGT 1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TATATGGACATCCAAGATCAGTTGCAGTCTGTGTGGAAAACC-----AAGTCATGTTTT 1688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----ThrIleThrPhe---ValThrAspGluSerGlyAspHisThrGly-----
                                                     ATCGTCACTGCCCACTGTGTC-----ACCTACTCTGCTACTGCTGAGATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --SerIleValAspCys---GlyProProAspAspLeuProSer---GlyArgValGlu 378
                                                                                                                                                                                                                                                                           -TGTATTCCAGTTTGTGGACGGTCAGACTCTCCTCGTTCTCCTTTTATC 2306
                                                                                                                                                -LeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrp 477 ::: |||| ::: |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----CysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TrpLysIleHisTyrThrSerThrAla 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -LysSerAsnThrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    274
```

387 1973

387

387

```
US-08-877-620-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/08877620 Patent No. 5985590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Ding, Jeak L
APPLICANT: HO, BOW
TITLE OF INVENTION: The
TITLE OF INVENTION: Sin
ITLE OF INVENTION: rot
UMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2718
ATTORNEY/AGENT INFORMATION:
NAME: MUIPHY, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 178.
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3015 AACCAGTACGGGGGCTTCACTAAAGTTAACGTTTTCCTGTCATGGATTAGGCAGTTCATT
                                                                                                                         PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 627
                                                                                                                                                                                                                                                                                                                                                   ZIP:
                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Birch, Stewart, Kolasch & Birch STREET: 8110 Gatchouse Road, Suite 500 East CITY: Falls Church STATE: Virginia
                                                                                                     FILING DATE:
                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---ArgTrpPheValGlyGlyIleValSerTrpGlySer---MetAsnCysGlyGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu---AspSerGluThrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTACCACTG----ACAGTAACAGAGAACATGTTCTGTGCAGGTTACAAGAAGGGACGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet 586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleThrProIleCysLeuProArgLys---GluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheAspAsn---AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTATGTACAAGTAAGAGGGCTCTTGAGATCCACGTGAATCCTAACTACGACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGCTGTGCTACCTGTTGCTTGCAGCCAGCACCTGTGAAGAGGGGGTACAAGGAAGCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTAGCAGTGGTGACAGGTTGGGGTTTGAATGAAAACAACACCTATTCAGAGACGATTCAA 2777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCCAACCAATCTGTCTGCCTACTGACATCACAACAAGAGAACACTTGAAGGAGGGAACA 2717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATCTCAACTTTGACATAGCCCTAATTCAACTGAAAACTCCTGTTACTTTGACAACACGA 2657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACCCCAATCAGTTTAAAATGTATCTGGGCAAGTACTACCGTGATGACAGTAGAGACGAT
                                                                                                                                                                                                                                                                                                                                                     22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jeak Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The Cloned Factor C cDNA of the Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C Proenzyme
                                                                                                                         08/596,405
                                                                                                                                                                                                       US/08/877,620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluAlaValPheIleHisGluGlyTyrThrHisAspAlaGly 528
                       1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                East
                                                                                                                                                                                                                                             #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3014
                                                                                                                                     Š
                                                                                                                                                                                В
                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-874-198-2 (1-686) x US-08-877-620-3 (1-3448)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-877-620-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEX: 248345
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: CDI
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Carcinoscorpius rotundicauda FEATURE:
                   2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         265 HisArgIleGluThr------LysSerAsnThrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 3448 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATCCTGGATCACTGGAAAATGGACACGCCACA---CTTCATGGACAAAGTATT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT
                                                                                                                                                                              ---ATCAAACCCCCAAGTCGGACAAACTCGATAAGTCGTGTTGGGTCACCTTTCTTGAGG
                                                                                                                                                                                                                                                                                                                                                                  LysSerPheThralaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATATGGACATCCAAGATCAGTTGCAGTCTGTGTGGAAAACC-----AAGTCATGTTTT
                TCACAACCCTCTACTGTGGACTTGGCCTTCTAAAGTTAAACTACCTGAAGGTCATTACCCGG
                                                                                                                                                                                                                                                                                                                                           GGAACTGAAACCGTAACTTGTACAACAAATGGCACATGGAGTGCTCCTAAACCTCGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                            GATGGGTTCTATGCTGGTTCTTCTATAAGGTACAGCTGTGAGGTTCTCCACTACCTCAGT 1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----TrpLysIleHisTyrThrSerThrAla 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----ThrIleThrPhe---ValThrAspGluSerGlyAspH1sThrGly-----
                                                                                               TTGCCACGGTTACCCCTCCCATTAGCTAGAGCAGCCAAACCTCCTCCAAAACCTAGATCC
                                                                                                                                                                                                                    TyrIleThrGlyProGlyValThrThr ...---
                                                                                                                                                                                                                                                            ATCAAAGTCATCACCTGCCAAAACCCCCCT-----GTACCATCATATGGTTCTGTGGAA
                                                                                                                                                                                                                                                                                                  ---SerIleValAspCys---GlyProProAspAspLeuProSer---GlyArgValGlu 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1: (703) 205-8000
(703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18..3074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.46e-38
470.50
39.63%
27.96%
12.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----Cyspro
```

1688

301

1574

288

274

1973

387

387

1919

361

341

Q

DЪ ş

δõ В

밁

В

δõ

g Ş Ş 망 Š Вþ Ş 밁

В

```
US-08-296-014A-1
                                                                                                                                                                                    밁
                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                       Sequence 1, Application US/08296014A Patent No. 5716834
                                     GENERAL INFORMATION:
APPLICANT: Ding, applicant: Ho, Bo
   TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2151
                                                                                                                                                                                    3015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2205
                                                                                                                                                                                                                                                                                                                               2895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     498
                                                                                                                                                                                                                                                                                                                                                                                                                                     607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              406
                                                                                                                                                                                                                                                                                                                                                                                                     838
                                                                                                                                                                                                      GlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                                                                                           ---ArgTrpPheValGlyGlyIleValSerTrpGlySer---MetAsnCysGlyGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                    AACCAGTACGGGGGCTTCACTAAAGTTAACGTTTTCCTGTCATGGATTAGGCAGTTCATT
                                                                                                                                                                                                                                                        AGGCGGTGGGTCTTGGAAGGGATTGTCAGCTGGGGCAGTCCCCAGTGGATGTGGCAAGGCG
                                                                                                                                                                                                                                                                                                                                                 AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu---AspSerGluThrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGCTGTGCTACCTGTTGCAGCCAGCCACCTGTGAAGAGGGGGTACAAGGAAGCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet
:::
:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCCAACCAATCTGTCTGCCTACTGACATCACAACAAGAGAACACTTGAAGGAGGGAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleThrProIleCysLeuProArgLys---GluAlaGluSerPheMetArgThrAspAsp
::: ||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIle 497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGACCACAATATGTGGTTTCTCCCAGTGTGGAGGATCTCTATTGAATGAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle------
                                                                                                                                                                                                                                                                                                                           GATGCCTGCAGTGGGGACAGTGGAGGACCTTTAGTGTTTTGCTGATGATTCCCGTACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                  TTACCACTG - - - ACAGTAACAGAGAACATGTTCTGTGCAGGTTACAAGAAGGGACGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAGCAGTGGTGACAGGTTGGGGTTTGAATGAAAACAACACCTATTCAGAGACGATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATCTCAACTTTGACATAGCCCTAATTCAACTGAAAACTCCTGTTACTTTGACAACACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PheAspAsn---AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTATGTACAAGTAAGAGAGGCTCTTGAGATCCACGTGAATCCTAACTACGACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACCCCAATCAGTTTAAAATGTATCTGGGCAAGTACTACCGTGATGACAGTAGAGACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCGTCACTGCTGCCACTGTGTC-----ACCTACTCTGCTACTGCTGAGATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCAAGGCAGAAGA---TGTGACTCTAATGGAAACTGGAGTGGTCGGCCAGCGAGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLys 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal
                                      Ding, Je
Ho, Bow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TGTATTCCAGTTTGTGGACGGTCAGACTCTCCTCGTTCTCCTTTTATC
                                                       Jeak Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----GluAlaValPheIleHisGluGlyTyrThrHisAspAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -LeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrp
The Cloned Factor C cDNA of Singapore Horseshoe Crab,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -TACACGTGCGAGTCGAGATACTACGAACTACTTGGA
 of the
, Carcinoscorpius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       445
                                                                                                                                                                                    3074
                                                                                                                                                                                                                                                                                                                                                                645
                                                                                                                                                                                                                                                                                                                                                                                                                                     626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    405
                                                                                                                                                                                                                     683
                                                                                                                                                                                                                                                        3014
                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                  2894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2258
```

```
Qy
                              В
                                                         Ω
                                                                                    рь
                                                                                                                QΥ
                                                                                                                                             밁
                                                                                                                                                                      ρy
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                              US-09-874-198-2 (1-686) x US-08-296-014A-1 (1-4182)
                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-296-014A-1
                                                                                                                                                                                                                                                                                                                                                                         Best Local
                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                 Pred
                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                     2318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
ATTORNBY/AGENT INFORMATION:
NAME: MULPHY, Jr., Gerald M.
REGISTRATION NUMBER: 28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: rotundicauda and Purification NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                      2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                2492
                                                                                                                                            2378 TATATGGACATCCAAGATCAGTTGCAGTCTGTGGGAAAACC-----AAGTCATGTTTT 2431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELLEFAX: VIII
                                                                                                                                                                         289
                                                                                                                                                                                                                                                                                       265
                                                                                                                                                                                                                                                                                                                                                                                                                 No : :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Falls Church
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
STREET: 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 4182 base pairs
                              GATCCTGGATCACTGGAAAATGGACACGCCACA---CTTCATGGACAAAGTATT-----
                                                         TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                      AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu 341
                                                                                                                  GlnPro----
                                                                                                                                                                                                    CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT
                                                                                                                                                                                                                                                                                    HisArgIleGluThr-----
                                                                                                                                                                                                                              -----ThrIleThrPhe---ValThrAspGluSerGlyAspHisThrGly-----
                                                                                                                                                                                                                                                                                                                                                                        Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Birch, Stewart, Kolasch
8110 Gatehouse Road, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
569..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Carcinoscorpius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .3817
                                                                                                                                                                                                                                                                                                                                                         39.63%
27.96%
12.52%
                                                                                                                                                                                                                                                                                                                                                                                                  4.73e-38
470.50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/296,014A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1781-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rotundicauda
                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                  Matches:
                                                                                                                                                                                                                                                                                                                                                                                                               Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s Birch
                                                                                                                                                                      -TrpLysIleHisTyrThrSerThrAla 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            #1.25
                                                                                                                                                                                                                                                                                                                                            4182
151
63
185
141
26
                                                                                                                                                                                                                                                                                    --LysSerAsnThrVal 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of Factor C
                                                                                                                  ----CysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proenzyme
                                                                                                                                                                                                     2377
                                                                                                                  301
                                                                                                                                                                                                                               288
                                2542
```

```
δÃ
                    Ş
                                                                                         Ş
                                                                                                                             B
                                                                                                                                                             οy
                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                           рь
                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                             3341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3050
                                                                                                                                                                                                       3401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2774 TTGCCACGGTTACCCCTCCCATTAGCCAGAGCCAAAACCTCCTCCAAAAACCTAGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2543
                                                                                                                                                                                                                                                                                                                                               3281 GACTATGTACAAGTAAGAGAGGCTCTTGAGATCCACGTGAATCCTAACTACGACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2834 TCACAACCCTCTACTGTGGACTTGGCTTCTAAAGTTAAACTACCTGAAGGTCATTACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                           3221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463
                                                                                                                                                                                                                                                                                                                                                                                                                                                              498
                                                     CAAGCTGTGCTACCTGTTGCTTGCAGCCAGCACCTGTGAAGAGGGGGTACAAGGAAGCAGAC
                                                                                                                                                  IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet 586
::: :::
                                                                                                                                                                                                                                                                         AATCTCAACTTTGACATAGCCCTAATTCAACTGAAAACTCCTGTTACTTTGACAACACGA 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTAGGGTCTCGAGCCATT----TACACGTGCGAGTCGAGATACTACGAACTACTTGGA 2947
               TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys 626
                                                                                                                           TTAGCAGTGGTGACAGGTTGGGGGTTTGAATGAAAACAACACCTATTCAGAGACGATTCAA
                                                                                                                                                                                                 GTCCAACCAATCTGTCTGCCTACTGACATCACAACAAGAGAACACTTGAAGGAGGGAACA 3460
                                                                                                                                                                                                                                   IleThrProIleCysLeuProArgLys---GluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                        PheAspAsn---AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                      GACCCCAATCAGTTTAAAATGTATCTGGGCAAGTACTACCGTGATGACAGTAGAGACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCGTCACTGCCCACTGTGTC-----ACCTACTCTGCTACTGCTGAGATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTGCAGACCACAATATGTGGTTTCTCCAGTGTGGAGGATCTCTATTGAATGAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----LeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCAAGGCAGAAGA---TGTGACTCTAATGGAAACTGGAGTGGTCGGCCAGCGAGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---ATCAAACCCCCAAGTCGGACAAACTCGATAAGTCGTGTTGGGTCACCTTTCTTGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrIleThrGlyProGlyValThrThr .....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGGGTTCTATGCTGGTTCTTCTATAAGGTACAGCTGTGAGGTTCTCCACTACCTCAGT
                                                                                       TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------TGTATTCCAGTTTGTGGACGGTCAGACTCTCCTCGTTCTCCTTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCAAAGTCATCACCTGCCAAAACCCCCCT-----GTACCATCATATGGTTCTGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---SerIleValAspCys---GlyProProAspAspLeuProSer---GlyArgValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAACTGAAACCGTAACTTGTACAACAAATGGCACATGGAGTGCTCCTAAACCTCGATGT
                                                                                                                                                                                                                                                                                                                                                                                  -GluAlaValPheIleHisGluGlyTyrThrHisAspAlaGly 528
::
                                                                                                                             3520
                                                                                                                                                                                                                                                                                                                                               3340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2602
                                                                                                                                                                                                                                                                                                                                                                                                                                                          514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-596-405-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                  Query Match:
                               Percent Similarity:
Best Local Similarity:
                                                                 score:
                                                                                             Alignment
                                                                                                                            US-08-596-405-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application Patent No. 5858706
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                  TELEX: 248345
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: The Cloned Factor C cDNA of the TITLE OF INVENTION: Singapore Horseshoe Crab, Carcinoscorpius rotundicauda and Purification of Factor C NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                         ORGANISM: FEATURE:
                                                                                                                                                                                                          ORIGINAL SOURCE:
                                                                                                                                                                                                                                    TOPULCE TYPE: CD
                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 17
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Murphy, Jr., Geral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3581
                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3758 AACCAGTACGGGGGCTTCACTAAAGTTAACGTTTTCCTGTCATGGATTAGGCAGTTCATT
                                                                                No.:
                                                                                                                                                                                                                         ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Falls Church
STATE: Virginia
COUNTRY: USA
                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                   TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Murphy, Jr., Gerald M
REGISTRATION NUMBER: 28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 22042
                                                                                                                                           LOCATION:
                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                   LENGTH: 4182 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                               Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGCGGTGGGTCTTGGAAGGGATTGTCAGCTGGGGCAGTCCCAGTGGATGTGGCAAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---ArgTrpPheValGlyGlyIleValSerTrpGlySer---MetAsnCysGlyGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTACCACTG - - - ACAGTAACAGAGAACATGTTCTGTGCAGGTTACAAGAAGGGACGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu---AspSerGluThrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/08596405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E: Birch, Stewart, Kolasch & Birch
8110 Gatehouse Road, Suite 500 East
                                                                                                                                                                                                                                                                                                                                                                                (703) 205-8050
                                                                                                                                           CDS
569.
                                                                                                                                                                                        Carcinoscorpius
                                                                                                                                                                                                                                                        CDNA
                                                                                                                                                                                                                                                                                    single
                                                                                                                                           .3817
   4.73e-38
470.50
39.63%
27.96%
12.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/596,405
                                                                                                                                                                                                                                                                                                                                                                                                                                 1781-105P
                                                                                                                                                                                         rotundicauda
                Conservative: Mismatches: Indels:
 Gaps:
                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.25
4182
151
63
185
141
26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Proenzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         683
```

```
Qγ
                                                                                                                                               Вþ
                                                                                                                                                                               Ωy
                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                       망
                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-874-198-2 (1-686) x US-08-596-405-1 (1-4182)
                                 Qy
   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2432
 3221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3050
                                                                                                                                                                                                                                                                                            3002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2543 GATGGGTTCTATGCTGGTTCTTCTATAAGGTACAGCTGTGAGGTTCTCCACTACCTCAGT 2602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2378 TATATGGACATCCAAGATCAGTTGCAGTCTGTGTGGAAAACC-----AAGTCATGTTTT 2431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2258 CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2834 TCACAACCCTCTACTGTGGACTTGGCTTCTAAAGTTAAACTACCTGAAGGTCATTACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2663 ATCAAAGTCATCACCTGCCAAAACCCCCCT-----GTACCATCATATGGTTCTGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                      294 GTAGGGTCTCGAGCCATT-----TACACGTGCGAGTCGAGATACTACGAACTACTTGGA 2947
                                     498
                                                                                                                                                                                                                                           446 TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle------
                                                                                                                                                                                                                                                                                                                                426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               379
                                                                                                                                                                                                                                                                                                                                                                                                      406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  492 GATCCTGGATCACTGGAAAATGGACACGCCACA---CTTCATGGACAAAGTATT----- 2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302 TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298 GlnPro-----CysPro 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCys 361
                                                                                                                                                                     ------LeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrp 477
                                                                                                                                                                                                                     -----TGTATTCCAGTTTGTGGACGGTCAGACTCTCCTCGTTCTCCTTTTATC
                                                                                                                                                                                                                                                                                                                 SerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIle 445
                                                                                                                                                                                                                                                                                                                                                              TCTCAAGGCAGAAGA---TGTGACTCTAATGGAAACTGGAGTGGTCGGCCAGCGAGC---
                                                                                                                                                                                                                                                                                                                                                                                     AsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLys 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGCCACGGTTACCCCTCCCATTAGCCAGAGCAGCCAAACCTCCTCCAAAACCTAGATCC 2833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---SerIleValAspCys---GlyProProAspAspLeuProSer---GlyArgValGlu 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ThrIleThrPhe---ValThrAspGluSerGlyAspHisThrGly-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACCCCAATCAGTTTAAAATGTATCTGGGCAAGTACCACCGTGATGACAGTAGAGACGAT 3280
                                 ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSer-----
                                                                       ATCGTCACTGCTGCCCACTGTGTC-----ACCTACTCTGCTACTGCTGAGATTATT
                                                                                                         ValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIle
                                                                                                                                               CTTGCAGACCACAATATGTGGTTTCTCCAGTGTGGAGGATCTCTATTGAATGAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---ATCAAACCCCCAAGTCGGACAAACTCGATAAGTCGTGTTGGGTCACCTTTCTTGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TyrIleThrGlyProGlyValThrThr------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGAACTGAAACCGTAACTTGTACAACAAATGGCACATGGAGTGCTCCTAAACCTCGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----TrpLysIleHisTyrThrSerThrAla 297
                                     514
                                                                                                                                                                                                                                                                                                                                                                3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2662
                                                                                                           497
                                                                                                                                               3169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  274
                                                                                                                                                                                                                                                        462
                                                                                                                                                                                                                                                                                            3049
```

RESULT US-084 Pates GEQU. THATTA	Qy Db	Фр	Qγ	ОУ ДЪ	Db Qy	Qy Db	Qγ Db	ДУ	DЪ
	664 3758	646 3698	627 3638	607 3581	587 3521	567 3461	548 3401	529 3341	515 3281
SHETT 10 Sub-877-620-1 Squence 1, Application US/08877620 tent No. 5985590 tent No. 5985590 tent No. 5985590 APPLICANT: Ding, Jeak Ling TITLE OF INVENTION: Singapore Horseshoe Crab, Carcinoscorpius TITLE OF INVENTION: Total Crab, Carcinoscorpius TITLING DATE: APPLICATION DATA: APPLICATION NUMBER: US/08/877,620 FILING DATE: APPLICATION DATA: APPLICATION NUMBER: US/08/877,620 FILING DATE: APPLICATION DATA: APPLICATION NUMBER: US/08/877,620 FILING DATE: APPLICATION UNBER: US/08/877,620 FILING DATE: APPLICATION USANT US	GlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle 683	ArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAla 663        :::	AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGlu 645    :::	TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys 626 	TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro 606 :::   :::	IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet 586 ::: TTAGCAGTGGTGACAGGTTGGGGTTTGAATGAAAACAACACCTATTCAGAGACGACTCAA 3520	IleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp 566 :::                  GTCCAACCAATCTGTCTGCCTACTGACATCACAACAAGAGAACACTTGAAGGAGGGAACA 3460	PheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn 547	GACTATGTACAAGTAAGAGAGGCTCTTGAGATCCACGTGAATCCTAACTACGACCCCGGC 3340

(703) 205-8050

```
Ş
                                 밁
                                                                                           В
                                                                                                                          õ
                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NAME/KEY:
; LOCATION:
US-08-877-620-1
                                                             Ş
                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x US-08-877-620-1 (1-4182)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (703) 205-80: TELEX: 248345 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 4182 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2378 TATATGGACATCCAAGATCAGTTGCAGTCTGTGTGGAAAACC-----AAGTCATGTTTT 2431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2258 CACAGACTAGATGCTGAGAAGCCCTTTATTTGGGAGTTAATGGATCGTAGTAATGTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                      2492 GATCCTGGATCACTGGAAAATGGACACGCCACA---CTTCATGGACAAAGTATT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ment Scores:
                                                                                                                                                                                                                                                                                                                                                                         322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 HisArgIleGluThr------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Carcinoscorpius rotundicauda
                                                                                                                                                                                                                                                                                                      LysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCys
                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyrIleLeuLys 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCACAACCCTCTACTGTGGACTTGGCTTCTAAAGTTAAACTACCTGAAGGTCATTACCGG
                                                                                           TTGCCACGGTTACCCCTCCCATTAGCCAGAGCAGCCAAACCTCCTCCAAAACCTAGATCC
                                                                                                                                                     ---ATCAAACCCCCAAGTCGGACAAACTCGATAAGTCGTGTTGGGTCACCTTTCTTGAGG
                                                                                                                                                                                    TyrIleThrGlyProGlyValThrThr-----
                                                                                                                                                                                                                                          ---SerIleValAspCys---GlyProProAspAspLeuProSer---GlyArgValGlu
                                                                                                                                                                                                                                                                               GGAACTGAAACCGTAACTTGTACAACAAATGGCACATGGAGTGCTCCTAAACCTCGATGT
                                                                                                                                                                                                                                                                                                                                        GATGGGTTCTATGCTGGTTCTTCTATAAGGTACAGCTGTGAGGTTCTCCACTACCTCAGT
                                                                                                                                                                                                                                                                                                                                                                      AspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----ThrIleThrPhe---ValThrAspGluSerGlyAspHisThrGly-----
                                                                                                                                                                                                                  ATCAAAGTCATCACCTGCCAAAACCCCCCT-----GTACCATCATATGGTTCTGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----TrpLysIleHisTyrThrSerThrAla
-TyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLysVal 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
569..3817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4.73e-38
470.50
39.63%
27.96%
12.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------CysPro 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----LysSerAsnThrVal 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4182
151
63
185
141
26
                                                                                           2833
                                                                                                                                                                                                                                                                               2662
                                                                                                                                                                                                                                                                                                                                         2602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2317
                              2893
                                                                                                                                                     2773
                                                                                                                                                                                                                  2716
                                                                                                                                                                                                                                                 378
                                                             387
                                                                                                                          387
                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                     2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        288
```

```
RESULT 11
US-09-715-994-1
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
Sequence 1, Application US/09715994 Patent No. 6423526 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3461
                                                                                                                              3758 AACCAGTACGGGGGCTTCACTAAAGTTAACGTTTTCCTGTCATGGATTAGGCAGTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3281 GACTATGTACAAGTAAGAGAGGCTCTTGAGATCCACGTGAATCCTAACTACGACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2894 GTAGGGTCTCGAGCCATT-----TACACGTGCGAGTCGAGATACTACGAACTACTTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           426
                                                                                                                                                        GlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                             TGGAATGGGAATTCTACAGAAATAGGTCAGTGGCCGTGGCAGGAATCTCTAGATGG 3109
                                                                                                                                                                                                                                                      ---ArgTrpPheValGlyGlyIleValSerTrpGlySer---MetAsnCysGlyGluAla
                                                                                                                                                                                                                                                                                                                      AspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu---AspSerGluThrGlu 645
                                                                                                                                                                                                                                                                                                                                                                                   TTACCACTG - - - ACAGTAACAGAGAACATGTTCTGTGCAGGTTACAAGAAGGGACGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAAGCTGTGCTACCTGTTGCTTGCAGCCAGCACCTGTGAAGAGGGGGTACAAGGAAGCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTAGCAGTGGTGACAGGTTGGGGTTTGAATGAAAACAACACCTATTCAGAGACGATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet
:::
:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCCAACCAATCTGTCTGCCTACTGACATCACCAACAAGAGAACACTTGAAGGAGGGAACA 3460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleThrProIleCysLeuProArgLys---GluAlaGluSerPheMetArgThrAspAsp 566
::: ||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIle------::: ||| ::: ||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCAAGGCAGAAGA---TGTGACTCTAATGGAAACTGGAGTGGTCGGCCAGCGAGC---
                                                                                                                                                                                                                                                                                                  GATGCCTGCAGTGGGGACAGTGGAGGACCTTTAGTGTTTGCTGATGATTCCCGTACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                        TyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACCCCAATCAGTTTAAAATGTATCTGGGCAAGTACTACCGTGATGACAGTAGAGACGAT 3280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCGTCACTGCTGCCCACTGTGTC-----ACCTACTCTGCTACTGCTGAGATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGACCACAATATGTGGTTTCTCCAGTGTGGAGGATCTCTATTGAATGAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerLeuProValCysGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIle 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSer------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----TGTATTCCAGTTTGTGGACGGTCAGACTCTCCTCGTTCTCCTTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----GluAlaValPheIleHisGluGlyTyrThrHisAspAlaGly 528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3001
                                                                                                                                                                                                                 3757
                                                                                                                                                                                                                                                        663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                     683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          462
```

APPLICANT: Holloway, James L.
TITLE OF INVENTION: Human Serine Protease
FILE REFERENCE: 99-88
CURRENT APPLICATION NUMBER: US/09/715,994
CURRENT FILING DATE: 2000-11-17

```
Qy
                                                                                                                       밁
                                                          망
                                                                                                                                                   QΥ
                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ДЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)...(807)
US-09-715-994-1
                           Qy
                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 1
LENGTH: 807
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
712
                                                             652
                                                                                          635
                                                                                                                                                                                                                                                  475
                                                                                                                                                                                                                                                                                                              415
                                                                                                                                                                                                                                                                                                                                             567
                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                         547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              874-198-2 (1-686) x US-09-715-994-1 (1-807)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TrpGlySer---MetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIle
||||||
                                                                             GlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyI1eValSer
                                                                                                                                         AsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGly
                                                                                                                                                                                   CACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG----GGCAATTACAGCGTCACGGAG
                                                                                                                                                                                                       HisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGlySerValThrAla
                                                                                                                                                                                                                                                                                                             CTGGGCCTGGTGGCCGGCTGGGGCATCTCCCAATCCCAATGTGACAGTGGATGAGATCATC
                                                                                                                                                                                                                                                                                                                                            IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPhe----
                                                                                                                                                                                                                                                                                                                                                                                           AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCTCCCAGCGTAGAGACACCACGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyGlyThrThrAla----
TGGGGGGGACCTGAAGAATGCGGCAGCAAGCAGGTCTATGGAGTCTACACAAAGGTCTCC
                                                           GGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGCTGGTGGTGCCAAGGCCTGGTGTCC
                                                                                                                         AACATGTTCTGTGCTGGCTACTACGAGGGCGGCAAAGACACGTGCCTTGGAGATAGCGGT
                                                                                                                                                                                                                                                 AGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAGTATGTCAAGTTACCCGTGGTGCCT
                                                                                                                                                                                                                                                                              -------LeuAlaArgAsnLeuMetTyrValAspIleProIleValAsp
                                                                                                                                                                                                                                                                                                                                                                          CACGTTATGCCTGTCTGCCTGCCAAGGCTTGAGCCTGAAGGC----CCGGCCCCCCACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                     CAAAACTACAACCACGATATAGCTCTGGTGCAGCTGCAGGAGCCTGTGCCCCTGGGACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTGCTCCACCCAGACTTC---AACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGluAla------ValPheIleHisGluGlyTyrThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTGGGCTTGCATGATGTGCGAGACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAspIle---ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGGTTTGGGAGTGGGGCCCTGCTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGATCATTGGGGGCCGAAATGCTGAGCCTGGCCTCTTCCCGTGGCAGGCCCTGATAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.75e-37
446.50
53.01%
37.59%
11.88%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------AlaGlyAlaLeuLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             807
100
41
92
33
                                                                                                                                                      634
                                                                                                                                                                                                                                                                                                                                                                                                        566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   474
                             673
                                                                                          654
                                                                                                                                                                                     591
                                                                                                                                                                                                                  614
                                                                                                                                                                                                                                                                                                              474
                                                                                                                                                                                                                                                                                                                                                                          414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         494
                                                          711
                                                                                                                         651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                      357
```

```
Qy
                                                                                                В
                                                                                                                             δÃ
                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                              Дδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-027-337-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                 В
                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; OTHER INFORMATION: US-09-027-337-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x US-09-027-337-9 (1-2900)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: Tanimoto, Hirotoshi
TITLE OF INVENTION: TADG-15: An Extracellular Serine
TITLE OF INVENTION: Breast and Ovarian Carcinomas
FILE REFERENCE: D6064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 9
LENGTH: 2900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 9, Application Patent No. 5972616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/027,337B CURRENT FILING DATE: 1998-02-20 NUMBER OF SEQ ID NOS: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
 169
                                                                                                  869
                                                                                                                                                                 641
                                                                                                                                                                                                 133
                                                                                                                                                                                                                                                                113
                                                                                                                                                                                                                                                                                                563
                                                                                                                                                                                                                                                                                                                                                                                                                              467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         674 AsnTyrIleProTrpIle
                                 758
                                                                  154
                                                                                                                                                                                                                                                                                                                                93
                                                                                                                                                                                                                                                                                                                                                                                                                                                            53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                             73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerValAlaThrProLeuGlyProLySTrpProGluProValPheGlyArgLeuAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTCATGCTGCCCCCGGGGC---GCGCTCCCTGAAGTCCTTTGTGGTCACCTC---AGT
AlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGlyGlnVal
                                                                                                                                ProGlyGlu-----AlaProThrCysAsp------
                                                                                                                                                                                               PheTyrAlaAlaGluAspIleAspGluCysGlnVal--------
                                                                                                                                                                                                                                                              LeuAspIleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAla 132
                                                                                                                                                                                                                                                                                                CCCGCTGCCAGTGGGCTGCGG------GGACGCGACGCAGTGCTGAGCTACTCGAGCTGA
                                                                                                                                                                                                                                                                                                                             GluSerThrAspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSer 112
                                                                                                                                                                                                                                                                                                                                                                                            GluTyrAspPheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGln
                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGGACAACAGCTGCAGCTTTGGCCTGCACGCCGCGGTGTGGAGCTG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTGGCTTTCCCCACGGACTCCAAAACAGT-----ACAGAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATTACGTGGACTGGGTG
                                 GAACGTCCTGCTCATCACACTGATAACCAACACTGACGCGGCATCCCCGGCTTTGAG-GCC
                                                                                                  ---GAGCGCGGCAGCGACCTGGTGACGTGTACAACACCCTGAGCCCCATGGAGCCCCACG
                                                                                                                                                                                                                                 CTCGCAGCTTGACTGCGCCTCGAC-----
                                                                                                                                                                                                                                                                                                                                                                -----ATGCGCTTCACCACGCCGGCTTCCCTGACAGCCCCTACCCCGCTCATG
                                                             -HisHisCysHisAsn---HisLeuGlyGlyPheTyrCysSerCysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SNC19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.18e-34
432.50
39.58%
27.09%
11.51%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/09027337B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (020428)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protease Overexpressed
                                                                                                                                                                                                 145
                                                                                                                                                                                                                                                                                                616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                466
   188
                                   816
                                                                168
                                                                                                                                                                  697
                                                                                                                                                                                                                                                                                                                                                                562
                                                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52
                                                                                                  757
                                                                                                                                  153
                                                                                                                                                                                                                                   640
                                                                                                                                                                                                                                                                                                                                                                                                                              514
                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in
```

1865	5 TGACAGAGGATTCAGGTACTCAGACCCCACGCAGGACGGCCTTCCTGGGCTTGCACGACC	ъ 180	ь
489	7 uGlnLys	Оу 48	_
. 60	6 CTGCGGTGCTTCCCTATCTCTCCCAACTGGCTGTCTCTGCCGCACACTGCTACATCGA	174	_
87	7 rAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTvrGl	Qy 46	_
467 1745	0 sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuglyGlyThrTh	Qy 45 Db 168	ь о
1685	Z CHACTGTGGGCTGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCACGGA	103	-
50	0 sGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy	1 43	
1631	TAGCGACGGCTCAGATGAGAAGGACTG	9	_
430	<pre>0 rValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCy  </pre>	Qy 41	0
1598	CGCTGCCTCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGA	Db 154	_
410	3 nTyrSerCysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTy		0
1539	0 CTGCCCCAAGGTGAACGTCGTCACTTGTACCAAACACACC-	50	
393	3 oSerGlyArgValGluTyrIleThrGlyProGlyValThrT	37	
1499	0 CTCGAAAAGCCAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGGTCC	Db 144	_
373	8 MetProAla-CysSerIleValAspCysGlyProProAspAs	Оу 35	0
1439	0 GACGAGCAGGGTTGCATTTGTCCGGACCCAGACCTTCAGGTGTTCCAATGGGAAGTGCC	Db 138	п
357	4TrpAspArgP	Qy 35	0
1379	3 AAGTTCTGCAAGCTCTTCTGGGTCTGCGACAGTGTGAACGAGTGCG	Db 132	п
353	9 LeuProLeuLysSerPheThrAlaValCysGlnLysAspGly	Qу 33	0
1322	3 GACCACAGCGATGAGCTCAACTGCAGTTGCGACGCCGCCCACCAGTTCACGTGCAAGAGC	Db 126	п
338	9 IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLe	Оу 31	0
1262	3 GTGCCGCACGGGGGGTGTATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCGACTG	Db 120	п
318	6 ProProAsnGlyHisValSerPro	Qу 30	0
1202	4 GGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGACCCATGCCCG	Db 114	н
305	8 GlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMe	Оу 28	0
1143	4 ACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCAGATCAGTCCTACACCGACACC	08	
287	8 GluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAspHis	26	
1083	ATCAATGGGGAGAAATACTGCGGAGAGAGGTCCCAGTTCGTCGTC	Db 103	н
267	8 IleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHisArgIl	Qy 24	0
1038	9 TTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACCTGCCCC	Db 97	н
247	9 GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeuLy	Qy 22	0
978	9 ATTGACTGCACATGGAAAATTGAGGTGCCCAACA	Db 91	_
228	9 SerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp	Оу 20	_
918	2CGTAAAGCCCAGGGGACATTCAACAGCCCCTACTACCCAGGCCACTACCCACCC	Db 86	_
208	9 PheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgi	Оу 18	_
861	17 ACCTTCTTCCAGCTGCCTAGGATGAGCAGCTGTGGGAGGCCGCTTA	Db 81	_

```
Sequence 9, Application US/09644600

Patent No. 6451500

GENERAL INFORMATION:

APPLICANT: O'Brien, Timothy J.

APPLICANT: Tanimoto, Hirotoshi

TITLE OF INVENTION: TADG-11: An Extracellular Serine Pro

TITLE OF INVENTION: Overexpressed in Carcinomas

FILE REFERENCE: D6064CIP/D

CUURRENT APPLICATION NUMBER: US/09/644,600

CUURRENT FILING DATE: 2000-08-23

PRIOR APPLICATION NUMBER: 09/421.213

PRIOR APPLICATION NUMBER: 09/421.213

PRIOR APPLICATION NUMBER: 09/027,337

PRIOR APPLICATION NUMBER: 09/027,337

PRIOR FILING DATE: 1998-02-20

INUMBER OF SEQ ID NOS: 98

SEQ ID NO 9

LENGTH: 2900

TYPE: DNA
                 Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
US-09-644-600-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                         ; OTHER INFORMATION: SNC-19; GeneBank Accession No. 6451500 \pm 020428 US-09-644-600-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                     Score:
                                                                                                     Alignment
                                                                                                                                                                         ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2006
                                                                                       No
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyTh 569
|||||||||||||||
|:::|||
|GCCCATCTGCCTGCCGC-----GACGCCTGCCATGTCTTCCCTGCCGGCAAGGCCATCTG 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTACACAAGGCTCCCTCTGTTTCGGGAATGGATCAAA 2371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lTyrThrLysValileAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGAGATCCGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTCACGGGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrVa ::::||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGGCCGGTGTGGTGAGCTGGGGAGA----CGCTGCGCTCAGAGGAACAAGCCAGGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCCAGGGTGATTCCGGGGGGACCCCTGTCCAGCGTGGAGGCGGAT---GGGCGGATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             oArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSe 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrPr 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPh 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----CCCTTCTTCAATGACTTCACCTT 1945
 2.18e-34
432.50
39.58%
27.09%
11.51%
Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                  Protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2278
```

```
DЬ
                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                              Дb
                                                                                                   δÃ
                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x US-09-644-600-9 (1-2900)
                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                  1144
                                                            1203 GTGCCGCACGGGGCGGTGTATCCGGAAGGAGCTGCGCTGTGATGGCTGGGGCGACTGCACC 1262
                                                                                                                                                                                                                                1084 ACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCAGATCAGTCCTACACCGACACC
                                                                                                                                                                                                                                                                                                                 1039
319 IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis 338
                                                                                                                                                                                                                                                            268 GluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAspHisThr 287
                                                                                                                                                                                                                                                                                                                                           248 IleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHisArgIle 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     515
                                                                                                                                                                                                                                                                                                                                                                                               979 TTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCCGGCACCTGCCCCAAGGACTACGTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   209 SerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAspPheVal 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                758 GAACGTCCTGCTCATCACACTGATAACCAACACTGACGCGCATCCCGGCTTTGAG-GCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133 PheTyrAlaAlaGluAspIleAspGluCysGlnVal------Ala 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     428
                                                                                                                                                                                                                                                                                                                                                                                                                                          229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 862 --- CGTAAAGCCCCAGGGGACATTCAACAGCCCCTACTACCCAGGCCACTACCCAACCCAAC 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169 AlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGlyGlnVal 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641 --- GAGCGCGGCAGCGACCTGGTGACGTGTACAACACCCTGAGCCCCCATGGAGCCCCACG 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  374 AGTCATGCTGCCCCCGCGGGC---GCGCTCCCTGAAGTCCTTTGTGGTCACCTC---AGT 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 563 CCCGCTGCCAGTGGGCTGCGG-----GGACGCGACGCAGTGCTGAGCTACTCGAGCTGA 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 GluSerThrAspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSer 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73 GluTyrAspPheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProGlyGlu-----AlaProThrCysAsp------
                                                                                                                                                                     GlyTrpLysIleHisTyrThrSer-----ThrAlaGlnProCysProTyrProMetAla 305
                                                                                                                                                                                                                                                                                                                                                                                                                                    GluSerPheAspValGluThrHis---ProGluThrLeuCysProTyrAspPheLeuLys 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTGACTGCACATGGAAAATTGAGGTGCCCAACAACCAGCATGTGAAGGTGCGCTTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------HisHisCysHisAsn---HisLeuGlyGlyPheTyrCysSerCysArg 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuAspIleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAla 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCys 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTGGCTTTCCCCACGGACTCCAAAACAGT-----
                                                                                                     ProProAsnGlyHisValSerProValGlnAlaLysTyr---
                                                                                                                                              GGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGACCCATGCCCGGG-GCAGTTCAC 1202
                                                                                                                                                                                                                                                                                                               ATCAATGGGGAGAAA-----TACTGCGGAGAGAGTCCCAGTTCGTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTTCTTCCAGCTGCCTAGG------ATGAGCAGCTGTGGAGGCCGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGGTGAGTGTGGGCACCTACCCTCCCTCCTACAACCTGACCTTCCACTCCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCAGCTTGACTGCGCCTCGAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----ATGCGCTTCACCACGCCGGCTTCCCTGACAGCCCCTACCCCGCTCATG 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGGACAACAGCTGCAGCTTTGGCCTGCACGCCGCGGTGTGGAGCTG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSer 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----ACAGAGGAC
                                                                                                                                                                                                                                                                                                                 1083
                                                                                                                                                                                                                                                                                                                                                                                                 1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   514
                                                                                                       318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92
```

3 rCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPh 648	628 2222	Qy Db
CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACT	2169	Db
oArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSe 62	608	Qy
AspileProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrPr 608   ::      ::::::::       :::::::::       ::::::	588 2120	Qy Db
rAlaSerGlyTrpGlyLeuThrGlr :::         GGTCACGGGCTGGGGACACACCCA	569 2060	Qy Db
9 rProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyTh 569                5 GCCCATCTGCCGGACGCCTGCCATGTCTTCCCTGCCGGCAAGGCCATCTG 2059	549 2006	Qy Db
9 eAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValVallleAsnSerAsnIleTh 549	529 1946	Qy Db
3CCCTTCTTCAATGACTTCACCTT 1945	1923	Db
rThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAla	509	Qy
- HISASPALASETALAHANSPILEARISMECHIYINI BEHLIYARIŞHENET KICHISIY 309 5 AGAGCCAGCGCAGGCCCTGGGGTGCAGGAGCGCAGG-CTCAAGCGCATCATCTCCCAC 1922	1866	Db dg
TGACAGAGGATTCAGGTACTCAGACCCCACGCAGGACGGCCTTCCTGGGCTTGCACGACC 18	0	рb
uGlnLys 48	8	Qy
5 CTGCGGTGCTTCCCCTATCTCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGA 1805	1746	Db
rAlaAlaGlyAlaLeuLeu	467	Qу
	1686	Дb
	450	Qy
3 SGluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy 450	430 1632	Qy Db
GGACTGTAGCGACGGCTG 16	1599	Дb
rValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCy 43	410	Qy
-TACCGCTGCCTCAATGGGCTCTGCTTGAGCAAGGGCAACCCTGAGTGTGACGGGAA	1540	Db
nTyrSerCysGluGluThrPheTyrThrMetLysVal	393	Qy
CTGCCCCAAGGTGAA	1500	שמ
oSerGlyArgValGluTyrIleThrGlyProGlyVal	373	Оу
:::	1440	DЪ
MetProAla-CysSerIleValAspCysGly	358	Qy
	1380	DЬ
TrpAsp/	354	Qy
	1323	DЬ
LeuProLeuLysSerPheThrAlaValCysGlnLysAspG	339	Qy
3 GACCACAGCGATGAGCTCAACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAGC 1322	1263	Db

```
; FEATURE:
; NAME/KEY: CDS;
; LOCATION: 648.3689
OTHER INFORMATION: /
US-08-866-650-4
                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                    Ş
                                                     Вb
                                                                                                               US-09-874-198-2 (1-686) x US-08-866-650-4 (1-3919)
                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
                                                                                                                                                                                                                                      Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-866-650-4
                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 608-251-9100
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 3919 base pairs
TYPE: nucleic acid
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4, Application US/08866650
Patent No. 5939321
GENERAL INFORMATION:
APPLICANT: Greenspan, Daniel S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Berson, Bennett J
REGISTRATION UNMBER: 37094
REFERENCE/DOCKET NUMBER: 9602
TELEOMMUNICATION INFORMATION:
TELEPHONE: 608-251-9166
TELEFAX: 608-251-9166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Takahara, Kazuhiko
APPLICANT: Hoffman, Guy G
TITLE OF INVENTION: Mammalian Tolloid-Like Protein
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Quarles & Brady
STREET: 1 South Pinckney Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/866,650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2335 GTACACAAGGCTCCCTCTGTTTCGGGAATGGATCAAA 2371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2279
                                                     2499 TGTGGTGGACTTCTTACCAAACTTAAC-----
                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           668 lTyrThrLysVallleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1 Sout
CITY: Madison
STATE: WI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11 CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu 30
31 AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr 50 :::||||||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
TOPOLOGY: lin
                                                                                                                                                                                                                                                                                                                                                                     ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SD
                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                  DNA (genomic)
                                                                                                                                                     5.9e-32
411.00
41.15%
27.37%
10.94%
                                                                                                                                                                                                                                                                                                  /product- "human mTll protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      960296.93839
                                                                                                                                                  Indels:
Gaps:
                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                  Mismatches:
                                                                                                                                                                                                  Conservative:
                                                 3919.
133
67
168
118
20
```

3572	CCACCAGAAGAGATTTAT	3552	Db
373	spLeuPro	354	Qy
353 3551	LeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySer	339 3504	Qy Db
338 3503	uThrGlyTyrGluLeuLeuGlnGlyHLs: :::::                   :: : ::::   CTGTGGCTATGACTATGTGGAGCTCTTT		Оу
323 3443	LysTyrIleLeuLysAspSer ::::::::		Db Qy
ω <del>μ</del>	LaGlnProCysPro	2 9	Db Qy
w w	GlyAspHisThrGlyTrpLySIleHIsTyrThrSerThr     :::::	60 00	D Qy
	euProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu ::	0 6	Ду Дъ
N Q	ysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThr:::: :::: AAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG	47	Db Qy
246 3143	alGluThrHisProGluThrLeuCysProTyrAspPheLeu ::	227 3093	Оу
226 3092	LysLeuSerSerCysThrTyrSerIleSerLeuGluGlyPheSerValIleLeuAsp	207 3033	Оу
206 3032	.yGluLeuSerSerProGluTyrProArgProTyrPro     :::::      :::   	187 2973	Оу
186 2972	CysargalaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly	167 2913	Qy Db
166 2912	isHisCysHisAsnHisLeuGlyGlyPheTyrCysSer             :::   :::     CGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA		Оу
146 2861	neTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro 	127 2808	Qy Db
126 2807	uAspIleThrPheArgSerAspTyrSerAsnGluLysPro :        :::      ::: GAGAATTGAATCTGAATCTGACAATACTGTATCCAAG	.107 2751	Оу
106 2750	AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe	87 2715	Db Qy
86 2714	LeuSerSerGlyAlaLysValLeu           :::   ::: GTCTTTCCTCTGAGTCTAAACTGCAT	71 2655	Db Qy
70 2654	rPheThrHisPheAspLeuGluLeuSerHis 	51 2595	Оy
	CACCCTGGCTGGCCCAAGGAGTACCCTCCTAATAAGAACTGTGTGTG	5	Db

```
, NAME/KEY: CDS; LOCATION: 648..3689; OTHER INFORMATION: , US-09-021-287-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Application US/09021287 Patent No. 5981717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                    TELEFAX: 608-251-9166
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 3919 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3693
                                                                                                                                    MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                           TELEPHONE: 608-251-5000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Mammalian Tolloid-Like Protein NUMBER OF SEQUENCES: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3573 TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA 3632
                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Berson, Bennett J
REGISTRATION NUMBER: 37094
                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Hoffman, Guy G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            匠 15
-021-287-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3633 TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACATACCAAAAAAATAACAC 3692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3792 TTGAACAAAAATCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           402 ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1 Sou
CITY: Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Quaries a Ling
STREET: 1 South Pinckney Street
                                                                                                                      ORGANISM:
                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                    STRANDEDNESS: double
                                                                                                                                                                                                                                                                                         TELEPHONE:
                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: UZIP: 53703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysGlyGluLysSerLeu
:::|||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAACTGAAGATA - - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnTyrSerCysGluGluThr----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ser---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Greenspan, Daniei
Takahara, Kazuhiko
                                                                                                                                                                      Linear
                                                                                                                   Homo sapiens
                                                                                                                                                    DNA (genomic)
                                                 /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Daniel S
                                                                                                                                                                                                                                                                                                                                                                                                                08/866,650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  us/09/021,287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                             960296.93839
                                                 "human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --TTGGCACAAATGTTTTATACAAAGAGT 3791
                                                 mTll protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----PheTyr 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       374
```

```
Qγ
                                                                                                                                                                                                                                                                                                             ρy
                                                                    Вþ
                                                                                                   δõ
                                                                                                                                       밁
                                                                                                                                                                    δÃ
                                                                                                                                                                                                           ď
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x US-09-021-287-4 (1-3919)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
 3324
                                                                                                                                       3204
                                                                                                                                                                                                           3144
                                                                                                                                                                                                                                                                                3093
                                                                                                                                                                                                                                                                                                                                                                                                                      2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No.:
                                                                                                                                                                         263
                                                                                                                                                                                                                                                                                                                                                                                                                                                        187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr ::::||||||| :::
                                                                                                                                     CAGAAGATCCACAGTCCAAGTGGCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGT------GGATGTCAGCACGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA 2912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCACCAACCCAGTACAGAATTTCTGTGAAGTTTGAGTTTTTTGAATTTGGAAGGCAATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGGTGGACTTCTTACCAAACTTAAC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu
GCAGAATCAAAACCAAGAGATCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 3383
                                AlaGlnProCysPro-----
                                                                                                   SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----
                                                                                                                                                                      LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu
                                                                                                                                                                                                           GAAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG
                                                                                                                                                                                                                                        LysIleGlnThrAspArgGluGluHisGlyPro------PheCysGlyLysThr 262
                                                                                                                                                                                                                                                                                                  PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu 246
                                                                                                                                                                                                                                                                                                                                                                                 LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCCGTAATGGATTTGTGCTACATGACAATAAACATGATTGCAAGGAAGCTGAGTGTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---AAGGGCTTCAAAGCACATTTTTTCTCA----GACAAAGATGAATGCTCTAAGGATAAT 2861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCAAATTCTGTGGCGCTGAAGTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTTGCAAATATGATTATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuCysGluTyrAspPheValLys------LeuSerSerGlyAlaLysValLeu 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGTTCAAAGAAAAGGCTTTCAAGCCACACATTCTACAGAGTGTGGCGGACGATTGAAA
                                                                                                                                                                                                                                                                                TTTAGTGAA---TTTGAGATTGAGCAGCATCAAGAA----TGTGCTTATGACCACTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe
                                                                                                                                                                                                                                                                                                                                                 AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCCGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.9e-32
411.00
41.15%
27.37%
10.94%
                              ---TyrProMetAlaProProAsnGlyHisVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3919
133
67
168
118
20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -GGCACCATA
                                                                                                                                                                       282
                                                                                                                                                                                                                                                                                                                                                                                                                      3032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2534
                                                                                                                                                                                                                                                                                                                                                   3092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30
                                                                                                                                                                                                                                                                                                                                                                                                                                                        206
```

```
RESULT 16
US-09-240-473-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/09240473 Patent No. 6297011
                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:

APPLICANT: Greenspan, Daniel S

APPLICANT: Takahara, Kazuhiko

APPLICANT: Hoffman, Guy G

TITLE OF INVENTION: Mammalian Tolloid-Like

NUMBER OF SEQUENCES: 13
       TELEFAX: 608-251-9166
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 3919 base pairs
                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       422 LysGlyGluLysSerLeu
:::||||||||
3792 TTGAACAAAAAATCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3384
                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3573
                                                              REFERENCE/DOCKET NUMBER: 96
TELECOMMUNICATION INFORMATION:
TELEPHONE: 608-251-5000
                                                                                                                     ATTORNEY/AGENT INFORMATION: NAME: Berson, Bennett J
                                                                                                                                                                                                                                                                                                              ADDRESSEE: Qua
STREET: 1 Sout
CITY: Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                312
LENGTH:
                                                                                                       NAME: Berson, Bennett
REGISTRATION NUMBER: :
                                                                                                                                               CLASSIFICATION:
                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                  STATE: WI
                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATGGTCTTGATTCA---ACAGCTGTGGGGGCTTGGTCGATTCTGT-----GGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnTyrSerCysGluGluThr - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAATAACAC 3692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA 3632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCCAGACATTTGAAGTGGAGGAAGAAGCAGACTGTGGCTATGACTATGTGGAGCTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAACTGAAGATA - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuProLeuLysSerPheThrAlaVal-------CysGlnLysAspGlySer 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PheSerIlePhe------CysGluThrGlyTyrGluLeuLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGACAGGTTGACTGTGAATGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerProValGlnAlaLysTyrIleLeuLysAsp----
                                                                                                                                                                                                                                                                        TRY: US
53703
                                                                                                                                                                                                                                                                                                                         1 South
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Quarles & Brady
South Pinckney Street
                                                                                                                                                                          US/09/240,473
                                                                                                       37094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3809
                                                                                          960296.93839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGCACAAATGTTTTATACAAAGAGT
                                                                                                                                                                                                                                                                                                                                                                                  Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----PheTyr 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       374
                                                            망
                                                                                     Ş
                                                                                                                                          δÕ
                                                                                                                                                                      B
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                      γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-240-473-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                  2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                       167
                                                                                                                                                                                                                                                                                                              147
                                                                                                                                                                                                                                                                                                                                                                                                                        107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
TOPOLOGY: lir
       GAAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
```

```
US-09-874-198-2 (1-686) x US-09-240-473-4 (1-3919)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: 648.368
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro 146
||||||:::||| ::: ||| |||||||||||||
---AAGGGCTTCAAAGCACATTTTTTCTCA---GACAAAGATGAATGCTCTAAGGATAAT 2861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuCysGluTyrAspPheValLys------LeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro 206
                                                                                                                                                                                                                                                                                                                                                                                                                                GGT-----GGATGTCAGCACGAATGTGTCAACACGATGGGGGAGCTACATGTGTCAA 2912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTTGCAAATATGATTATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACCAACCCAGTACAGAATTTCTGTGAAGTTTGAGTTTTTTGAATTGGAAGGCAATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr
LysIleGlnThrAspArgGluGluHisGlyPro------PheCysGlyLysThr 262
                                                                                                                                                                                         LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                                                                       CAGAAGATCCACAGTCCAAGTGGCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA
                                                                                                                                                                                                                                                                                                                                   TGCCGTAATGGATTTGTGCTACATGACAATAAACATGATTGCAAGGAAGCTGAGTGTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCAAATTCTGTGGCGCTGAAGTG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe 106
                                                                                             PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu 246
                                                                                                                                            AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCCGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           double
                                                 -TTTGAGATTGAGCAGCATCAAGAA----TGTGCTTATGACCACTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .3689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.9e-32
411.00
41.15%
27.37%
10.94%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "human mTll
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       168
118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----CCTGAAGTGATC
                                                 3143
                                                                                                                                                                                                                                       3032
                                                                                                                                                                                                                                                                                                                                     2972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2534
                                                                                                                                            3092
                                                                                                                                                                                         226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                      quence 1, Application attent No. 6008017 GENERAL INFORMATION:
                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                         APPLICANT: LI, XIAOTONG
TITLE OF INVENTION: HUMAN CARDIAC/BRAIN TOLLOID-LIKE
TITLE OF INVENTION: PROTEIN
NUMBER OF SEQUENCES: 4
CORDERCYSTERS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3204
                                                                                                                                                                                                                                                                                                                                                                                                  3792 TTGAACAAAAATCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3444 TTCCAGACATTTGAAGTGGAGGAAGAAGCAGACTGTGGCTATGACTATGTGGAGCTCTTT 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3384
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3504
                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       312
                                                                                                                                                                                                                                                                                                                                                       -991-408-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           374 Ser-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        263
            COMPUTER: IBM Compatible OPERATING SYSTEM: DOS SOFTWARE: FastSEQ for Wir
                                                                                                     COUNTRY:
                                                                                                                      STATE:
                                                                                                                                     STREET: P.O. BOX 9:
CITY: VALLEY FORGE
                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                  LysGlyGluLysSerLeu 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAACTGAAGATA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAAACCTCTGTCAGAACACAAAGGAATGTGCATAATGGAGAGAAGACATATTTTTTTA 3752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnTyrSerCysGluGluThr----PheTyr 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAAATAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA 3632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  {\tt TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATGGTCTTGATTCA----ACAGCTGTGGGGGCTTGGTCGATTCTGT-------GGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheSerIlePhe------CysGluThrGlyTyrGluLeuLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGACAGGTTGACTGTGAATGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerProValGlnAlaLysTyrIleLeuLysAsp---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGAATCAAAACCAAGAGCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 3383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaGlnProCysPro------TyrProMetAlaProProAsnGlyHisVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGTTCAAAGAAAAGGCTTTCAAGCCACACATTCTACAGAGTGTGGCGGACGATTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----Thr
                                                                                          19482
                                                                                                                                                                                                                                                                                                                                   Application US/08991408
                                                                                                                      PΑ
                                                                                                      USA
                                                                                                                                                                                                                                                           ELSHOURBAGY, NABIL A.
                                                                                                                                                                                                                                                                          WILLETTE, ROBERT N.
                                                                                                                                                                                                                                                                                        ARLETH, ANTHONY J.
            FastSEQ for Windows Version
                                                                                                                                                   RATNER & PRESTIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------3572
                                                                                                                                                                                                                                                                                                                                                                                                  3809
                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TTGGCACAAATGTTTTATACAAAGAGT 3791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -Ser 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        282
                                         δõ
                                                                        Ъ
                                                                                                   Qy
                                                                                                                                     Дb
                                                                                                                                                              Qy
                                                                                                                                                                                                 B
                                                                                                                                                                                                                            Ωy
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
```

```
; MOLECULE TYPE: US-08-991-408-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-874-198-2 (1-686) x US-08-991-408-1 (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                     2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-407-0700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/0: FILING DATE: 02-JAN-1997 ATTORNEY/AGENT INFORMATION: NAME: PRESTIA, PAUL F
                                                                                                                                                                                                                                                                                                                                            2355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2103 TGTGGTGGACTTCTTACCAAACTTAAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No
...
                                       187
                                                                                                                                                                                                             147
                                                                                                                                                                                                                                                                                                                                                                                  107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 5145 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 610-407-0701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11 CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: PRESTIA, PAUL REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                   TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuCysGluTyrAspPheValLys-------LeuSerSerGlyAlaLysValLeu 86
CAGAAGATCCACAGTCCAAGTGGCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA 2636
                                     GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro 206
                                                                                                     CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                     GGT------GGATGTCAGCACGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA 2516
                                                                                                                                                                                                          GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTTGCAAATATGATTATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT 2318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACCAACCCAGTACAGAATTTCTGTGAAGTTTGAGTTTTTTGAATTGGAAGGCAATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr 50
                                                                                                                                                                                                                                                         ---AAGGGCTTCAAAGCACATTTTTTCTCA---GACAAAGATGAATGCTCTAAGGATAAT 2465
                                                                                                                                                                                                                                                                                            PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro 146
                                                                                                                                                                                                                                                                                                                                          ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                            GGCAAATTCTGTGGCGCTGAAGTG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9.2e-32
411.00
41.15%
27.37%
10.94%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/08/991,408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/034,471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23,031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATG-50038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                          -----GGCACCATA 2138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5145
133
67
168
118
20
```

```
; Sequence 1, Application US/09432473
; Patent No. 6365715;
GENERAL IMPORMATION;
APPLICANT: ARLETH, ANTHONY J.
APPLICANT: WILLETTE, ROBERT N.
APPLICANT: ELHOURBAGY, NABIL A.
APPLICANT: LI, XIAOTONG
TITLE OF INVENTION: HUMAN CARDIAC/BRAIN TOLLOID-LIKE PRO
FILE REFERENCE: ATG-50038-D1
CURRENT APPLICATION NUMBER: US/09/432,473
CURRENT FILING DATE: 1999-11-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                         RESULT 18
US-09-432-473-1
                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          γo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                             3396
                                                                                                                                                                                                                                                                                                               3357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3156
                                                                                                                                                                                                                                                                                                                                                                                                                                                 3237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2868
                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    207
                                                                                                                                                                                                                                          TTGAACAAAAATCCCTG
                                                                                                                                                                                                                                                          LysGlyGluLysSerLeu
:::|||||||
                                                                                                                                                                                                                                                                                                                                         ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                                                                                                          GATGGTCTTGATTCA----ACAGCTGTGGGGGCTTGGTCGATTCTGT------GGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG
                                                                                                                                                                                                                                                                                                                                                                           CAAAACCTCTGTCAGAACACAAAGGAATGTGCATAATGGAGAGAAGACATATTTTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAATAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {\tt TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProButton}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCCAGACATTTGAAGTGGAGGAAGAAGCGGACTGTGGCTATGACTATGTGGAGCTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PheSerIlePhe-----CysGluThrGlyTyrGluLeuLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerProValGlnAlaLysTyrIleLeuLysAsp--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGAATCAAAACCAAGAGATCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 2987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaGlnProCysPro------TyrProMetAlaProProAsnGlyHisVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGTTCAAAGAAAAGGCTTTCAAGCCACACATTCTACAGAGTGTGGCGGACGATTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer------Thr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----GlyArgValGluTyrTleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGACAGGTTGACTGTGAATGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysIleGlnThrAspArgGluGluHisGlyPro-----PheCysGlyLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTAGTGAA---TTTGAGATTGAGCAGCATCAAGAA----TGTGCTTATGACCACTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCTGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                                                                            3413
                                                                                                                                                                                                                                                                                                         ---TTGGCACAAATGTTTTATACAAAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3395
                                                                                                                                                                                                                                                                                                                                                                            3356
                                                                                                                                                                                                                                                                                                                                                                                                                                              3296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2696
```

```
Ş
                                                                                                   Ş
                                                                                                                                       밁
                                                                                                                                                                      δÃ
                                                                                                                                                                                                         B
                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: HOMO
US-09-432-473-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-874-198-2 (1-686) x US-09-432-473-1 (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 1
LENGTH: 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EARLIER APPLICATION NUMBER: 08/991,408
EARLIER FILLING DATE: 1997-12-16
EARLIER APPLICATION NUMBER: 60/034,471
EARLIER FILLING DATE: 1997-01-02
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                  2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2139
                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                      207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11
                                                                                                                                                                                                                                                                                              CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr
GAAGTATTTGATGGAGAAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG
                           LysIleGlnThrAspArgGluGluHisGlyPro-----PheCysGlyLysThr
                                                                                      PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                     CAGAAGATCCACAGTGCCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA
                                                                                                                                                                                                                                                                                                                                                                        GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :::|||:::||||:::|||:::|
GTTTGCAAATATGATGATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT 2318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuCysGluTyrAspPheValLys------LeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu
                                                                                                                                    AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCTGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                       GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro 206
                                                                                                                                                                                                                                                                          TGCCGTAATGGATTTGTGCTACATGACAATAAACATGATTGCAAGGAAGCTGAGTGTGAA
                                                                                                                                                                                                                                                                                                                                               GGT-----GGATGTCAGCACGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                  ---AAGGGCTTCAAAGCACATTTTTTCTCA---GACAAAGATGAATGCTCTAAGGATAAT 2465
                                                                                                                                                                                                                                                                                                                                                                                                                                      PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCAAATTCTGTGGCGCTGAAGTG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe
                                                                   TTTAGTGAA---TTTGAGATTGAGCAGCATCAAGAA----TGTGCTTATGACCACTTA
                                                                                                                                                           LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAPIENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.2e-32
411.00
41.15%
27.37%
10.94%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------CCTGAAGTGATC
                                                                   2747
                                                                                                                                                                                                         2636
                                                                                                                                                                                                                                                                            2576
                                                                                                                                                                                                                                                                                                                                               2516
                                                                                                                                                                                                                                                                                                                                                                                                                                                    146
                                                                                                                                      2696
                                                                                                                                                                      226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30
```

Š DЬ

멍 Ş B Вþ Qy Ъ Qy 밁 δÃ

20

```
Sequence 3, Application US/08991408 Patent No. 6008017 GENERAL INFORMATION:
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Wir
                                                                                                                                                                                             NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                              APPLICANT: ARLETH, ANTHONY J.
APPLICANT: WILLETTE, ROBERT N.
APPLICANT: ELSHOURBAGY, NABIL A.
APPLICANT: LI, XIAOTONG
TITLE OF INVENTION: HUMAN CARDIAC/BRAIN TOLLOID-LIKE
TITLE OF INVENTION: PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2868
                                                                                                                                                                                                                                                                                                                                                                                                                                            3396 TTGAACAAAAATCCCTG 3413
                                                                                       STATE: PA
COUNTRY: US
ZIP: 19482
                                                                                                                                                                                                                                                                                                                                                                                         -991-408-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3048 TTCCAGACATTTGAAGTGGAGGAAGAAGCGGACTGTGGCTATGACTATGTGGAGCTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        283
                                                                                                                                        STREET: P.O. BOX 98
CITY: VALLEY FORGE
                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
:::|||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysGlyGluLysSerLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAACTGAAGATA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAATAACAC 3296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuProLeuLysSerPheThrAlaVal-------CysGlnLysAspGlySer 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PheSerIlePhe------CysGluThrGlyTyrGluLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGACAGGTTGACTGTGAATGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGAATCAAAACCAAGAGATCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 2987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnTyrSerCysGluGluThr------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATGGTCTTGATTCA----ACAGCTGTGGGGGCTTGGTCGATTCTGT-------GGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerProValGlnAlaLysTyrIleLeuLysAsp-----Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaGlnProCysPro------TyrProMetAlaProProAsnGlyHisVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGTTCAAAGAAAAGGCTTTCAAGCCACACTTCTACAGAGTGTGGCGGACGATTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----Thr
                                                                                                                                                            ₽.0.
                                                                                                         USA
   FastSEQ for Windows Version
                                                                                                                                                                             RATNER & PRESTIA
                                                                                                                                                            вох 980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---TTGGCACAAATGTTTTATACAAAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----GGGCCACCAGAAGAGATTTAT 3176
   2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----PheTyr 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             282
                                                                     밁
                                                                                                      Š
                                                                                                                                          밁
                                                                                                                                                                         Qy
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                δã
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρy
                                                                                                                                          1011
   1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                                  187
                                                                                                                                                                             147
                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                      107
                                                                                                                                                                                                                                                                                                                                                        864
                                                                                                                                                                                                                                                                                                                                                                                                                            804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        648
                                                                                                                                                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31
```

δÃ DЬ Š Вр δã DЬ δÃ DЬ Qy

```
; TOPOLOGY: 1; MOLECULE TYPE: US-08-991-408-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2 (1-686) x US-08-991-408-3 (1-3690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 3690 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: 610-407-0700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: PRESTIA, PAUL F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           744 GCACCAACCCAGTACAGAATTTCTGTGAAGTTTTGAATTTGAATTGGAAGGCAATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71 LeuCysGluTyrAspPheValLys-----LeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11 CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 23 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                          TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGAAGATCCACAGTCCAAGTGGCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA 1181
                                        GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro 206
                                                                                              TGCCGTAATGGATTTGTGCTACATGACAATAAACATGATTGCAAGGAAGCTGAGTGTGAA 1121
                                                                                                                       CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                                               GGT-----GGATGTCAGCACGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA 1063
                                                                                                                                                                                                                                                                                                                                                                                              ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGGTGGACTTCTTACCAAACTTAAC-----
                                                                                                                                                                                                                                          GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                             ---AAGGGCTTCAAAGCACATTTTTTCTCA---GACAAAGATGAATGCTCTAAGGATAAT 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCAAATTCTGTGGCGCTGAAGTG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTTGCAAATATGATTATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr
                                                                                                                                                                                                                                                                                                                                             PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       846169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           610-407-0701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6.79e-32
410.00
41.15%
27.37%
10.91%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/034,471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/991,408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23,031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATG-50038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GGCACCATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3690
133
67
168
118
20
```

683

30

956

86

803

```
RESULT 20
US-09-432-473-3
                                                                                                                                                                                    밁
                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                  γ
                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
Sequence 3, Application US/09432473
Patent No. 6365715
GENERAL INFORMATION:
APPLICANT: ARLETT, ANTHONY J.
APPLICANT: WILLETTE, ROBERT N.
APPLICANT: ELSHOURBAGY, NABIL A.
APPLICANT: LI, XIAOTONG
TITLE OF INVENTION: HUMAN CARDIAC/BRAIN TOLLOID-LIKE PROTEIN
FILE REFERENCE: ATG-50038-D1
CURRENT APPLICATION NUMBER: US/09/432,473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1182
                                                                                                                                                                                                                                                                                                    1842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              207
                                                                                                                                                                                    TTGAACAAAAAATCCCTG
                                                                                                                                                                                                 LysGlyGluLysSerLeu 427
                                                                                                                                                                                                                                            AAACTGAAGATA - - -
                                                                                                                                                                                                                                                                  ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                           TCAATTGGAGATTCAGTTTTAATTCATTTCCACACTGATGACACAATCAACAAGAAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ser-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCCAGACATTTGAAGTGGAGGAAGAAGCAGACTGTGGCTATGACTATGTGGAGCTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGACAGGTTGACTGTGAATGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerProValGlnAlaLysTyrIleLeuLysAsp----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaGlnProCysPro····----TyrProMetAlaProProAsnGlyHisVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----Thr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTAGTGAA---TTTGAGATTGAGCAGCATCGGGAA----TGTGCTTATGACCACTTA
                                                                                                                                                                                                                                                                                               TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAATAACAC 184:
                                                                                                                                                                                                                                                                                                                                                                                -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGGTCTTGATTCA---ACAGCTGTGGGGCTTGGTCGATTCTGT-----GGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAGAATCAAAACCAAGAGATCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 1532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGTTCAAAGAAAAGCCTTTCAAGCCACACATTCTACAGAGTGTGGCGGACGATTGAAA 1472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysIleGlnThrAspArgGluGluHisGlyPro-----PheCysGlyLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCTGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                    1958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----TTGGCACAAATGTTTTATACAAAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; LENGTH: 3690
; TYPE: DNA
; ORGANISM: HOMO S
US-09-432-473-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT FILING DATE: 1999-11-01
FARLIER APPLICATION NUMBER: 08/991,408
FEARLIER FILING DATE: 1997-12-16
FEARLIER APPLICATION NUMBER: 60/034,471
FEARLIER FILING DATE: 1997-01-02
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 3
SEQ ID NO 3
             Ş
                                          밁
                                                                  γ
                                                                                               밁
                                                                                                                        δÃ
                                                                                                                                                    В
                                                                                                                                                                                Q
                                                                                                                                                                                                             В
                                                                                                                                                                                                                                    γ
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                     1011
                                                                                                                                                                                                                                         167
                                                                                                                                                                                                                                                                                               147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    648
                                                                                                                                                                                                                                                                                                                                                                                                            107
                                                                                                                                                                                                                                                                                                                                                                                                                                         864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGGTGGACTTCTTACCAAACTTAAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SAPIENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.79e-32
410.00
41.15%
27.37%
10.91%
```

```
US-09-874-198-2 (1-686) x US-09-432-473-3 (1-3690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysGlySerValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeu 30
                               LysIleGlnThrAspArgGluGluHisGlyPro----
                                                                                                                                                                                                                                                                                                                               CAGAAGATCCACAGTCCAAGTGGCCTCATCACCAGTCCCAACTGGCCAGACAAGTACCCA 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuCysGluTyrAspPheValLys------LeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACCAACCCAGTACAGAATTTCTGTGAAGTTTGAGTTTTTTGAATTGGAAGGCAATGAA
                                                                                                                                                   PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                        GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCCGTAATGGATTTGTGCTACATGACAATAAACATGATTGCAAGGAAGCTGAGTGTGAA 112:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---AAGGGCTTCAAAGCACATTTTTTCTCA---GACAAAGATGAATGCTCTAAGGATAAT 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACATCCCAGTTCAACAATATGAGAATTGAATTCAAATCTGACAATACTGTATCCAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCAAATTCTGTGGCGCTGAAGTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTTGCAAATATGATTATGTGGAGATCTGGAGTGGTCTTTCCTCTGAGTCTAAACTGCAT 863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTAGTGAA---TTTGAGATTGAGCAGCATCGGGAA----TGTGCTTATGACCACTTA
                                                                                                                                                                                                              AGCAGGAAAGAATGCACTTGGGAAATCAGCGCCACTCCTGGCCACCGAATCAAATTAGCC
                                                                                                                                                                                                                                                                       LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----GGATGTCAGCACGAATGTGTCAACACGATGGGGAGCTACATGTGTCAA 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------ CCTGAAGTGATC 899
----PheCysGlyLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3690
133
67
168
118
                                                                                                                                                   246
                                                                                                                                                                                                              1241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  683
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/08200900A Patent No. 5665566
                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                               58-200-900A-1
                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1293
                                 SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1653
                                                                                                                                                                                                                                                                                                                                                                                                                                        1941
                                                                                                                                                                                                                                                                                                                                                                                                                                                       422 LysGlyGluLysSerLeu 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                ZIP: 02140
                                                                                                                                                           COUNTRY:
                                                                                                                                                                                              STREET: 87 Camb. CITY: Cambridge
                                                                                                                                                                                                                   ADDRESSEE: Genetics Institute, STREET: 87 CambridgePark Drive
FILING DATE:
                    APPLICATION NUMBER: US/08/200,900A
                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGAACAAAAATCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAACTGAAGATA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTCATATAAGATACAAAAGCATAAGATATCCAGATACCACACATACCAAAAAATAACAC 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAGAATCAAAACCAAGAGATCTGTACTCACATGCTCAGTTTGGTGATAACAACTACCCA 1532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnTyrSerCysGluGluThr----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAATTGGAGATTCAGTTTTAATTCCACTTGATGACAACAATCAACAAGAAGGGA 178:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GATGGTCTTGATTCA---ACAGCTGTGGGGGCTTGGTCGATTCTGT------GGATCC 1700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheSerIlePhe----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGACAGGTTGACTGTGAATTGGCTATTAGTATCAGAACGGGGCTCTCGACTTGAATTATCC 1592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerProValGlnAlaLysTyrIleLeuLysAsp------Ser 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGTATTTGATGGAGAAACAGAAAAGTCACCGATTCTTGGACGACTATGTGGCAACAAG 1352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ser----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaGlnProCysPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGTTCAAAGAAAAGGCTTTCAAGCCACACATTCTACAGAGTGTGGCGGACGATTGAAA 1472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuProHisArgTleGluThrLysSerAsnThrValThrIleThrPheValThrAspGlu 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----GlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIle 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAGACATTTGAAGTGGAGGAAGAAGCAGACTGTGGCTATGACTATGTGGAGCTCTTT 1652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyAspHisThrGlyTrpLysIleHisTyrThrSer------Thr 296
                                                                                                                                                                                 MA
                                                                                                                                                                 USA
     23-FEB-1994
                                                                                                                                                                                                                                                                                         CLONING OF ENTEROKINASE AND METHOD OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------GGGCCACCAGAAGAGATTTAT 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----CysGluThrGlyTyrGluLeuLeuGlnGlyHis 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---TyrProMetAlaProProAsnGlyHisVal
                                                                                                                                                                                                                                  Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -TTGGCACAAATGTTTTATACAAAGAGT 1940
                                                                                                                                                                                                                                   Legal
                                                       #1.25
                                                                                                                                                                                                                                   Affairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheTyr 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          374
```

```
Š
                                                                                           δÃ
                                                                                                                                     B
                                                                                                                                                                       Qγ
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x US-08-200-900A-1 (1-2581)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-200-900A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (617) 876-585
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 876-1170 X8574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.:
                                                                                                                                                                                                                                                                                                                                297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                882 CTCCTCCACCAGAACTTCCCACGACTGTGGAGGGCCTCATGACCTGTGGGAGCCAAATA
                     372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    172 ValLeuHisArgAsn---LysArgThrCysSerAlaLeu-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 31,544
REFERENCE/DOCKET NUMBER: GI 5201-FWC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 2581 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Meinert, Maureen C
LeuProSerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaVal 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAsp 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CA-ACA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrProLysLeu
                                                         GGCTCAGATGAA----
                                                                                           GlySerTrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAsp 371
                                                                                                                                     GAGTGTATTCCGCTGGTGAAT
                                                                                                                                                                                                                                                                                          CCAGAACCCTGCAAG-----
                                                                                                                                                                                                                                                                                                                            AlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAla 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATTCCTTGTTCTTAGCTGTGTACACAGGC-----CCTGGTCCAGTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAA - - - TTTGACCTGGAAAATATTGCAGATGTAGTTGAAATCAGAGATGGTGAAGGAGAT 1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAsp----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTTTCTGTATTTGGAATTTAAATGCACAAAAGGGAAAAATATTCAGCTCCACTTTCAA 1045
                                                                                                                                                                     GlyHisLeuProLeuLysSerPheThrAlaValCysGln------
                                                                                                                                                                                                                                                  LysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGln 336
                                                                                                                                                                                                                                                                                                                                                                    AATATGCTGGCAAAACAGGGATTTAAAGCAAATTTCACTACTGGCTATGGCTTGGGGATT 1255
                                                                                                                                                                                                                                                                                                                                                                                                        GluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                -----AACGATGTGTTCTCAACCACCAACCGAATGACTGTGCTTTTTATCACTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerSerCysThrTyrSerIleSerLeuGluGlyPheSerValIleLeuAspPheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----PheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLys 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (617)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                               -GAAGACAATTTTCAG-----TGCAAGGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          876-5851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.42e-32
408.50
42.39%
25.95%
10.87%
                                                         ----GCACACTGTGTGCGTCTCTTCAATGGCACGACAGACAGC 1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----TTCACGTCTATAAACTTCCCAAACAGCTACCCTAATCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative: Mismatches:
                                                                                                                                     -CTCTGTGACGGTTTTCCACACTGTAAGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581
150
95
193
141
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -CysserGlyGlnVal 188
                                                                                                                                                                       LysAsp 351
                                                                                                                                     1348
                                                                                                                                                                                                               1297
                                                                                                                                                                                                                                                                                          1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  941
```

```
Ş
                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                          밁
                                                                                                                                                                         Ş
                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                 RESULT 22
PCT-US94-00616-1
                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                       밁
Sequence
                                                                                                                                                                                                                                                                                                                                                  2123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1400
                                                                       2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           444
                                                                                                                                                                                                                                               626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               443
                                                                                                                                                                                                                                                                                                                                                                                                                    063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      412
                                                                                        TyrGlyValTyrThrLysVallleAsnTyrIleProTrpIleGluAsnIleIle
                                                                                                                                                                                                                                                                            CAGATGCCAGAATATAACATTACGGAAAATATGGTGTGCAGGCTATGAAGCAGGAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTGGTGAGCAGGGATTGGCTGTGTGCGGCCGCCCACTGCGTGTACGGGAGAAATATG
                                                                  CCAGGGGTGTATGCCCGGGTCCCAAGGTTCACAGAGTGGATACAAAGTTTTCTA 2392
                                                                                                                                                        GTAGATTCTTGTCAGGGGGATTCAGGCGGACCACTC----ATGTGCCAAGAAAACAAC
                                                                                                                                                                                                                               LysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGlu
                                                                                                                                                                                                                                                                                              ProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGly
                                                                                                                                                                                                                                                                                                                                                CAAGAAGCTGACGTTCCCCTTCTATCAAATGAGAAATGT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAGAAAGAACAATGACATTGCCATGATGCATCTTGAAAATGAAAGTGAACTACACAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGCCGTCTAAGTGGAAAGCAGTGCTAGGCCTGCATATGGCATCA---AATCTGACTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---LeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGGAGCCTGGCCTTGGGTCGTTGCTCTGTATTTCGACGATCAACAGGTCTGCGGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGAAAAAACTGGTGACTCAAGAAGTTAGCCCGAAGATTGTCGGAGGAAGTGACTCCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCAGCTGCTGGGACTAGGGACT------GGAAACTCATCCGTGCCAACCTTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----AGTGGTTTGGTGCAGTTC---
                                                                                                                                      AGATGGCTCCTGGCGTGACGTCATTTGGA---TATCAATGTGCACTGCCTAATCGC
                                                                                                                                                                                                                                                                                                                                                                               MetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                 ATTTGTTCTATTGCTGGGGGGGGGCACTTATATATCAAGGTTCTACTGCAGACGTACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATATACAGCCTATTTGTTTACCA-----GAAGAAAATCAAGTTTTTCCCCCCAGGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTCAGATAGAAACTAGGTTGATTGACCAAATTGTCATAAACCCACACTAC---AATAAA 1948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspAlaSer-----AlaLeuAspIleArgMetGlyThrLeuLysArgLeuSer 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProGlyAspPheProTrpGlnVal---LeuIleLeuGlyGlyThrThrAlaAlaGlyAla 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAAGCCAACAGTGCTTAGAGGATTCACTGATTTTGCTACAATGTAACTACAAATCATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTGGAGGTGGACCATATGTAAATTTAAACACAGCACCTAATGGCAGCTTAATACTAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -------ProValCysGlyLeuSerAlaArgThrThrGlyGly---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGCATGTAGCCTGTGCCGAGAAC---TGGACAACCCAGATCTCAGATGAT-----GTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleGlnTyrSerCysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrVal 411
1, Application PC/TUS9400616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------ArgIleTyrGlyGlyGlnLysAlaLys 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----AGGATCCAAAGCATA 1432
                                                                                                                                                                                                                                                                                                              625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1483
                                                                                                                                                                                                                                                                                                                                                2167
                                                                                                                                                                                                                                                                                                                                                                               605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1774
                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                   585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                         2281
                                                                                                                                                                                                                                           645
```

```
Š
                                                                                                      밁
                                                                                                                                     Š
                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
 Š
                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-874-198-2 (1-686) x PCT-US94-00616-1 (1-2581)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US94-00616-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 2581 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: CL
NUMBER OF SEQUENCES: 3
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                          1196
                                                                                                                                                                                                                                                                                                             1145
                                                                                                                                                                                                                                                                                                                                                                             1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                     1298
                                                                                                                                                                        1256
   352
                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                               245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172 ValLeuHisArgAsn---LysArgThrCysSerAlaLeu-----CysSerGlyGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
TOPOLOGY: lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: PCT/US94/00616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrProLysLeu
GlySerTrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAsp 371
                                                                                                                                                                                                                                                                                                        ------AACGATGTGTTCTCAACCACCAACCGAATGACTGTGCTTTTTATCACTGAT 1195
                                                                                                                                                                                                                                                                                                                                                                                                           -----PheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLys 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CA-ACA-----TTCACGTCTATAAACTTCCCAAACAGCTACCCTAATCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCCTCCACCAGAACTTCCCACGGACTGTGGAGGCCTCATGACCTGTGGGAGCCAAATA
                                 GAGTGTATTCCGCTGGTGAAT------CTCTGTGACGGTTTTCCACACTGTAAGGAT
                                                                 GlyHisLeuProLeuLysSerPheThrAlaValCysGln------LysAsp 351
                                                                                                                                                                        CCAGAACCCTGCAAG----
                                                                                                                                                                                                                                        AATATGCTGGCAAAACAGGGATTTAAAGCAAATTTCACTACTGGCTATGGCTTGGGGATT
                                                                                                                                                                                                                                                                    GluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer-----Thr
                                                                                                                                                                                                                                                                                                                                         ThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAsp
                                                                                                                                                                                                                                                                                                                                                                             GATTCCTTGTTCTTAGCTGTACACAGGC-----CCTGGTCCAGTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                             GAA----TTTGACCTGGAAAATATTGCAGATGTAGTTGAAATCAGAGATGGTGAAGGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAsp------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTTTCTGTATTTGGAATTTAAATGCACAAAAGGGAAAAAATATTCAGCTCCACTTTCAA 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAspPheVal
                                                                                                                          LysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGln :::|||:::
                                                                                                                                                                                                        AlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAla
                                                                                                     -----GAAGACAATTTTCAG-----TGCAAGGATGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.42e-32
408.50
42.39%
25.95%
10.87%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLONING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ę,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENTEROKINASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         METHOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USE
                                 1348
                                                                                                                                      336
                                                                                                                                                                                                                                          1255
                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                                                                                           1144
                                                                                                                                                                                                                                                                                                                                                                                                                                               1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       188
                                                                                                     1297
                                                                                                                                                                                                        316
                                                                                                                                                                      1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     941
```

```
В
                                                                                                                                            Q
                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                               Вр
                                                                            δÃ
                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                Š
                                                 Вþ
                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1349
                                                                                                                                                                                                                                                                                                                                                                                2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1892
                                                                                                                                                                                                                                                                                                                                                                                                              547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          443
                                                                                                                               LysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGlu
                                                                                                                                                                                                 ProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGly
                                                                                                                                                                                                                                                                MetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysPro
                                                                                                                                                                                                                                                                                                                                       IleGlyThrAlaSerGlyTrpGly----LeuThrGlnArgGlyPheLeuAlaArgAsnLeu
                                                                                                                                                                                                                                                                                                                                                                            TATATACAGCCTATTTGTTTACCA-----GAAGAAAATCAAGTTTTTCCCCCAGGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                 AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer :::||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProGlyAspPheProTrpGlnVal---LeuIleLeuGlyGlyThrThrAlaAlaGlyAla 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGAAAAAACTGGTGACTCAAGAAGTTAGCCCGAAGATTGTCGGAGGAAGTGACTCCAGA 1714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAAGCCAACAGTGCTTAGAGGATTCACTGATTTTGCTACAATGTAACTACAAATCATGT 1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTGGAGGTGGACCATATGTAAATTTAAACACAGCACCTAATGGCAGCTTAATACTAACG 1594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGlu 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTCAGATGAA-----GCACACTGTGTGCGTCTCTTCAATGGCACGACAGACAGC 1399
             TyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIle
                                             AGATGGCTCCTGGCCTGACGTCATTTGGA---TATCAATGTGCACTGCCTAATCGC
                                                                            ArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGln
                                                                                                              GTAGATTCTTGTCAGGGGGATTCAGGCGGACCACTC----ATGTGCCAAGAAAACAAC
                                                                                                                                                                              CAGATGCCAGAATATAACATTACGGAAAAATATGGTGTGCAGGCTATGAAGCAGGAGGG
                                                                                                                                                                                                                                               CAAGAAGCTGACGTTCCCCTTCTATCAAATGAGAAATGT-----
                                                                                                                                                                                                                                                                                                               ATTTGTTCTATTGCTGGCTGGGGGGGCACTTATATATCAAGGTTCTACTGCAGACGTACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAGAAAGAACAATGACATTGCCATGATGCATCTTGAAATGAAAGTGAACTACACAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTCAGATAGAAACTAGGTTGATTGACCAAATTGTCATAAAACCCACACTAC---AATAAA 1948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCCGTCTAAGTGGAAAGCAGTGCTAGGCCTGCATATGGCATCA---AATCTGACTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspAlaSer-----AlaLeuAspIleArgMetGlyThrLeuLysArgLeuSer 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCTGGTGAGCAGGGATTGGCTGGTGTCGGCCGCCCACTGCGTGTACGGGAGAAATATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---LeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGGAGCCTGGCCTTGGGTCGTTGCTCTGTATTTCGACGATCAACAGGTCTGCGGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ProValCysGlyLeuSerAlaArgThrThrGlyGly------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTCAGCTGCTGGGACTAGGGACT------GGAAACTCATCCGTGCCAACCTTTTCT 1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGCATGTAGCCTGTGCCGAGAAC - - - TGGACAACCCAGATCTCAGATGAT - - - - - - GTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----AGTGGTTTGGTGCAGTTC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuProSerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -ArgIleTyrGlyGlyGlnLysAlaLys 452
-----AGGATCCAAAGCATA
                                                                                                                                                                                                                                               -----CAACAA 2167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391
                                                                                                                                                                                                               625
                                                                                                                                                                                                                                                                               605
                                                                                                                                                                                                                                                                                                              2122
                                                                                                                                                                                                                                                                                                                                                                              2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1432
                                                                                                                                              645
                                                                                                                                                                             2227
                                                                                                                                                                                                                                                                                                                                                                                                                                             2008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
                                                                              밁
                                                                                                            Ş
                                                                                                                                            В
                                                                                                                                                                         γQ
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TOPOLOGY: 1; MOLECULE TYPE: US-09-202-101-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 23
US-09-202-101-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 16, Application Patent No. 6277618 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1389 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: RENUMBER OF SEQUENCES: 1
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NO.:
                                               492
                                                                               826
                                                                                                                486
                                                                                                                                              766
                                                                                                                                                                             472
                                                                                                                                                                                                               706
                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                               646
                                                                                                                                                                                                                                                                                                               443
                                                                                                                                                                                                                                                                                                                                              586
                                                                                                                                                                                                                                                                                                                                                                              442
                                                                                                                                                                                                                                                                                                                                                                                                             526
                                                                                                                                                                                                                                                                                                                                                                                                                                             434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       single
```

```
US-09-874-198-2 (1-686) x US-09-202-101-16 (1-1389)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal-----
                        AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln ::: |||||::: |||||||
                                                                                                                                                                                                                                                            GGTCAATTCCCTTGGCAGGTTGTTTTGAATGGTAAAGTTGATGCATTCTGTGGAGGCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGAGCAG----TTTTTGTAAAAATAGTGCTGATAACAAGGTGGTTTGCTCCTGTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGGGGTGTATGCCCGGGTCCCAAGGTTCACAGAGTGGATACAAAGTTTTCTA 2392
                                                                                                                                                                                                             LeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaVal----
                                                                                                                                                                                                                                                                                                GlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAla-----AlaGlyAla
                                                                                                                                                                                                                                                                                                                                                  CAAAGCACCCAATCATTTAATGACTTCACTCGGGTTGTTGGTGGAGAAGATGCCAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTCCTGATGTGGACTATGTAAATTCTACTGAAGCTGAAACCATTTTGGATAACATCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTCCATGTGGAAGAGTTTCTGTTTCACAAACTTCTAAGCTCACCCGTGCTGAGACTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGGGATATCGACTTGCAGAAAACCAGAAGTCC-----TGTGAACCAGCAGTGCCA
                                                                                   ACAGTTGTCGCAGGTGAACATAATATTGAGGAGACAGAACATACAGAGCAAAAGCGAAAT
                                                                                                                                                                    ATCGTTAATGAAAAATGGATTGTAACTGCTGCCCACTGTGTTGAAACTGGTGTTAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----CysGly---LeuSerAlaArgThrThrGly---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.54e-32
405.00
44.73%
30.48%
10.78%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Recombinant blood-coagulation 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/0920210:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/09/202,101
                                                                                                                                                                                                                                                                                                                                                                         --GlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps:
GTGATTCGAATTATTCCTCACCACAAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #1.30B (EPO)
                                                                                                                         -TyrGluGlnLysHisAsp 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1389
107
50
92
102
16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteases
                                                                                                                                                                                                                                                                                                       471
                                                                                                                                                                                                                                                                                                                                                                                        453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               525
                                                                                   885
                                                                                                                                                                                                                                                            765
                                                                                                                                                                                                                                                                                                                                                  705
                                                                                                                                                                                                                                                                                                                                                                                                                                      645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  474
                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    442
```

heT T ers	Pred. No.: 4.54e-32 Length: 1389 Score: 405.00 Mtches: 107 Percent Similarity: 44.73% Conservative: 50 Best Local Similarity: 30.48% Mismatches: 92 Query Match: 10.78% Indels: 102 DB: 6 Gaps: 16 US-09-874-198-2 (1-686) x 5521070-1 (1-1389)	FILING DATE: 03-NOV-1992 APPLICATION NUMBER: 433,276 FILING DATE: 08-NOV-1989 ;SEQ ID NO:1: LENGTH: 1389 5521070-1 Alignment Scores:	IX OR A SIMILAR PROTEIN, EXPRESSION VECTOR, TRANSFORMED CELLS, ;METHOD FOR PREPARING FACTOR IX AND CORRESPONDING PRODUCTS OBTAINED; ; NUMBER OF SEQUENCES: 6 ; CURRENT APPLICATION DATA: ; APPLICATION NUMBER: US/08/209,489 ; FILING DATE: 14 MAR-1994 PRIOR APPLICATION DATA: APPLICATION NUMBER: 970,966	JLT 24 1070-1 APPLICANT: MEULIEN, PIERRE TITLE OF INVENTION: DNA SEQUENCE CODING	Qy 670 ThrLysVallleAsnTyrIleProTrpIleGlu 680	QY 650 G1yG1yIleValSerTrpG1ySerMetAsnCysG1yG1uAlaG1yG1nTyrG1yValTyr 669       :::	Qy 631 GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheVal 649	611 ServalThralaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg 630 ::::::	Qy 591 ProlleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610    :::         123 CCACTTGTTGACCGAGCCACATGTCTTCGATCTACAAAGTTC 1164	Qy 572 GlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspIle 590	Qy 552 CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer 571    :::	Qy 532 AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle 551	Qy 512 AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 531 ::::::    :::
RESULT 25 US-08-106-078-15 ; Sequence 15, Application US/08106078 ; Patent No. 5543328 ; Patent INFORMATION: GENERAL INFORMATION: APPLICANT: McClelland, Alan APPLICANT: Stevenson, Susan C. TITLE OF INVENTION: Adenoviruses Having Modified TITLE OF INVENTION: Fiber Proteins	Qy 650 GlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyr 669	Qy 611 SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg 630 :::::: Db 1166 ACCATCTATAACAACATGTTCTTGTGCTGGCTTCCATGAAGAGGTAGAGATTCATGTCAA 1225 Qy 631 GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheVal 649	Qy 572 GlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAsp1le 590	Qy 552 CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer 571	Qy 532 AspileAlaLeuileLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProile 551	Oy 512 AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 531	Qy 492 AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln 511 Db 887	Qy 486	Qy 472 LeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaVal	Oy 454 GlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAla 471	Qy 443	Qy 442 442  Db 587 TTTCCTGATGTGGACTATGTAAATTCTACTGAAGCTGAAACCATTTTGGATAACATCACT 646	Qy 434CysGlyLeuSerAlaArgThrThrGly

```
Вþ
                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                   δõ
                                                                                                                                                                                                                                                                                                                                        Qy
       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; NAME/KEY: US-08-106-078-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/08/106,078
FILING DATE: 13-AUG-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA: 424
PRIOR APPLICATION DATA:
FILING DATE:
FILING DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-874-198-2 (1-686) x US-08-106-078-15 (1-1548)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch dis)
COMPUTER: IBM PS/2
OPERATING SYSTEM: MS-DOS
SOFTWARE: WordPerfect 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 1548 bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                396 CysGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAsp 415
       711
                                      454 GlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAla-----AlaGlyAla 471
                                                                                                                                                                                                                                                                            591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        416 GlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal----- 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           426
                                                                                                                                         651 CAAAGCACCCAATCATTTAATGACTTCACTCGGGTTGTTGGTGGAGAAGATGCCAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480 GAGGGATATCGACTTGCAGAAAACCAGAAGTCC-----TGTGAACCAGCAGTGCCA 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 6 Becker I
CITY: Roseland
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Carella, Byrne, Bain, Gilfillan, ADDRESSEE: Cecchi, Stewart & Olstein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                               TTTCCATGTGGAAGAGTTTCTGTTTCACAAACTTCTAAGCTCACCCGTGCTGAGACTGTT 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGAGCAG-----TTTTGTAAAAATAGTGCTGATAACAAGGTGGTTTGCTCCTGTACT 479
GGTCAATTCCCTTGGCAGGTTGTTTTGAATGGTAAAGTTGATGCATTCTGTGGAGGCTCT 770
                                                                                                                                                                                                                                                                        TTTCCTGATGTGGACTATGTAAATTCTACTGAAGCTGAAACCATTTTGGATAACATCACT 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----CysGly---LeuSerAlaArgThrThrGly------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6 Becker Farm Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Factor IX cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.42e-32
405.00
44.73%
30.48%
10.78%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             inch diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271010-160
                                                                                                                                                                             ----GlyArgIleTyrGlyGlyGlnLysAlaLysPro 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1548
107
50
92
102
```

	ACCAAGGTATCCCGGTATGTCAACTGGATTAAG 1370	1338	Дb
	ThrLysVallleAsnTyrIleProTrpIleGlu 680	670	Qy
1337	ACTGGAATTATTAGCTGGGTGAAGAGTGTGCAATGAAAGGCAAATATGGAATATAT	1281	Db
669	GlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyr	650	Qy
1280	GGAGATAGTGGGGGACCCCATGTTACTGAAGTGGAAGGGGACCAGTTTCTTA	1230	Db
649	GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheVal	631	Qy
1229	ACCATCTATTACAACATGTTCTGTGCTGGCTTCCATGAAGGAGGTAGAGATTCATGTCAA	1170	Db
630	SerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArg	611	Qy
1169	CCACTTGTTGACCGAGCCACATGTCTTCGATCTACAAAGTTC	1128	Db
610	ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly	591	Qy
1127	GCTGGGGAAGAGTCTTCCACAAAGGGAGATCAGCTTTAGTTCTTCAGTACCTTAGAGTT	1068	рь
590	GlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMetTyrValAspIle	572	Qy
1067	TGCATTGCTGACAAGGAATACACGAACATCTTCCTCAAATTTGGATCTGGCTATGTAAGT	1008	Вb
571	CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer	552	Qy
1007		948	ф
551	AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle	532	Qy
947	TACAATGCAGCTATTAATAAGTACAACCAT	918	рь
531	AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn	512	Qy
917	GTGATTCGAATTATTCCTCACCACAAC	891	Db
511	AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln	492	Qy
890	ACAGTTGTCGCAGGTGAACATAATATTGAGGAGACAGAACATACAGAGCAAAAAGCGAAAT	831	ДĎ
491	TyrGluGlnLysHisAsp	486	Qy
830		771	рь
485	LeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaVal	472	Qy

Search completed: January 24, 2003, 00:19:29 Job time: 148 secs

710

442

442

## GenCore version 5.1.3 Copyright (c) 1993 - 2003 Compugen Ltd.

1: em_esthum:* 2: em_esthum:* 3: em_estin:* 4: em_estmu:* 5: em_estov:* 6: em_estvo:* 7: em_estro::* 10: gb_est2:* 11: gb_htc:* 12: gb_est3:* 13: gb_est4:* 14: gb_est5:* 16: em_estom:* 17: gb_gs:* 18: em_gss_hum:* 19: em_gss_hum:* 20: em_gss_nus:* 21: em_gss_nus:* 22: em_gss_nus:* 23: em_gss_nus:* 24: em_gss_nus:* 25: em_gss_nus:* 26: em_gss_rod:*	Listing Listing Line parameters: rame+_p2n.model - rAme+_p2n.model - rAme+_p2n.model - rAme+_p2n.model - rAme+_p2n.model - rAme+_p2n.model - rAme+_rAm	000000000 Match 0% Match 100%	Searched: 16154066 seqs, 8097743376 residues Total number of hits satisfying chosen parameters: 32308132	able:	(without alignments) (without alignments) 5011.323 Million cell updat le: US-09-874-198-2 fect score: 3758	ein - nucleic search, using frame_plus_p2n model
---	--	-------------------------------------	--	-------	--	--

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

63 64	60 61 62	57 58	56	550	52	50 51	48	47	c 45	44	42	c 40	wu	c 37	<b>ω</b> ω	34	332	C 30	, N	c 28	26	24	22 23	21	י ע כ	c 18	15 16	c 14	c 12	10 11	n د م		ກຸດ		ი ~ N	1	Result
62.	571.5 574.5	7 . 8	ω.	59		٥.	00	0	00		61	2 6	٠ ٨	53	٠.		567	٠ α	9	$\omega$	w	υ	ww	w +	75	6	7		8 8	. 7	7	ا س د	<b>5</b> ~	100	109		cor
55.5	15.3	ភភភភ	5.5	55.5		ა დ	5.0	. 6	<u>ი</u> ი		. 0 .	0	ი .	0	6.7	7 :	٦,	œ œ	8 1	9.9	9.	့ မ	9.	9.	000	٥.	0.0	0 !	٠,	ν.	ω.	- 4- 1	лo	, 0, 1	2,10	. ;	ery
10	939 790 1051	200	8 9	<b>~</b> ~	0	w a	10	101	ωσ	0 W	w	<b>4</b> ⊓	<b>7</b> L	00 1	8 7	NU	a co	70	90	0 N	4	2 1	7	wu	י טיי	N	400	4 (	7	78	0 4	ν.	4 <	9	27	4	Length D
νω.	14 13	4 4	4	4	•	0	<b>₽</b> (	0	4	N	4 (	4.0	4	. 20	w	·	J	u	, ,	N	4	- 4-	4 4	4	٠ (	<i>⊶</i> •			د	20	N	, (	<b>-</b>	0	w	ω :	₩
00	BQ894117 B1330963 B1067932	383	Ø N	Õ	181	3 2	10 W	49	77	142	<u>. i</u>	3 60	620	, <u> </u>	62	Θ.	96	တ် မ	97	Si	23	30	76	18	100	ぃる	UN	0.4	82		400	üω	4 0	i Úi i		95	SUMMARIES
454262 603170 685001 602636	BQ894733 AGENCOURT BQ894117 AGENCOURT BI330963 602983262 BO067932 AGENCOURT	08933 mw71c03 893389 AGENCO	40720 AL5407 881801 AGENC	4100 mb2	40482 AL	800289 в	008361 60361 898913 AGENC	623493 BB623	45177 ES' 947443 II	825421 60307 890174 60151	771154 UI-M-I	6666 yi04c02	939021 AGENCO	840188 RC4-H	57931 AL5579: 789626 ic41bi	48397 AL	48966 uc	921962 6 99298 ue	91397 mw	27510 mb 159541 6	654231 A	646367 A	648641 A	653181 A	38260 mx	780799 A	29228 ui 37253 mx	22666 s7	06982 z1	BF236712 602028006 BF233993 602024479	532409 6	26038 uj	48851 qn	B653589 BI	88 6	1146955 6	ipt

```
RESULT 1
BI146955
LOCUS
                                         Ъ
                                                               Ş
                ρ
                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                              Pred.
                                                                                        US-09-874-198-2
                                                                                                                  DB:
                                                                                                                                                                  Score:
                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                             BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                       Alignment
                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65
66
66
67
70
71
71
73
                                                                                                                                                                                                                             COUNT
                                                                                                                                                                             No.:
                                                                                                                                                                                                                                                                                                                                                                source
                27
                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           562
560.5
559.5
559.5
547.5
547.5
536.5
536.5
533.5
                                     Scores:
              PheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArg
  DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMI1143 row: a column: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria; Rodentia; Sciurognath
1 (bases 1 to 843)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                       High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            602911589F1 NCI_CGAP_Li9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 house mouse.
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BI146955.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BI146955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BI146955
                                                                                          (1-686)
                                                                                                                                                                                                                             186
                                                                                                                                                                                                                                                                                                                                                                           quality sequence stop: 
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="FVB/N"
/db_xref='taxon:10090"
/clone='Ib="NMGE:5052574"
/clone=lib="NCI_CGAP_Li9"
/lab_host="DH10B (T1 phage-resistant)"
/lab_host="Driver: Vector: pCMV-SPORT6; Site_1: Not Site_2: SalI; Cloned unidirectionally. Primer: Oligo Average insert size 1.9 kb. Constructed by Life Technologies. Note: this is a NCI_CGAP Library."

36 a 247 c 221 g 189 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             മ
                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
                                                                                                               1.49e-113
1176.50
86.79%
79.64%
31.31%
                                                                                       ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:14606956
                                                                                                                                                                                                                                                                                                                                                                  . 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           711
444
488
760
580
525
525
609
847
                                                                                        BI146955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10
10
10
12
13
13
13
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AI893981
BI488467
BB801554
BG740807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AW954607
BE381251
AA530523
BG870477
BJ028859
AW447230
AI323993
                                                                                        (1-843)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         843
Mus
                                                                                                               Gaps:
                                                                                                                           Mismatches:
Indels:
                                                                                                                                                   Matches:
Conservative:
                                                                                                                                                                            Length:
                                                                                                                                                                                                                                                                                                                                                                                        767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata;
Sciurognathi; Muridae
  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NA linear EST 05-JUL-2001 CDNA clone IMAGE:5052574 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene
                                                                                                               843
223
20
36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW944607 EST366677
BE381251 601271127
AA530523 v339e12.r
BG870477 602791392
BJ0728859 BJ028859
AW447230 88524 MAR
AI323993 mb27h04.x
AI833981 mf68f04.y
BI488467 60302058
BB801554 BB801554
BG740807 602632787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LLNL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
; Murinae; Mus
                                                                                                                                                                                                                                                               Oligo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MGC)
                                                                                                                                                                                                                                                               NotI;
igo dT
                46
                                       63
                                                               26
                                                                                                                                                                                                                                                                                                                                                                                                                                        be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus.
                                                                           JOURNAL COMMENT
                                                                                                                                                                                                                                                   RESULT 2
BI219788
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                           REFERENCE
                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                       DEFINITION
                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                    724
                                                                                                                                                                                                                                                                                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                                                    664
                                                                                                                                                                                                                                                                                                                                                                                                                          227
                                                                                                                                                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184
                                                                                                                                                                                                                                                                                                                            267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGTGTTCACAGGAAGATCTGGGTATCTCAGTAGCCCTGAGTACCCACAGCCATACCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGAGCTCAGGGACCAAGGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeu
                                                                                                                                                                                                                                                                                                                                                                LysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHisArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTCTCCAGCTGCACCTACAGCATCCGCCTGGAGGACGGCTTCAGTGTCATCCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCAGAGCGGGCTACGTTCTCCACCAGAACAAGCACACGTGCTCAGCCCTTTGTTCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTGGGCGGCTACTATTGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGATGAATGCAGAGTGTCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGACTACTCCAATGAGAAGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCACACTGTGTGGGCAGGAGAGTACAGACACTGAGCAGGCACCTGGCAATGACACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGACACTGACTGCACCCCTGGCTACCGCCTGCGCCTCTACTTCACCCACTTTGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTGACACTGACAGCACAAGGTGGACCATCAACTTTTGGCACTGACGAAGTCGGGGAA
                                                                                                                                                                                                                                                                                                                                                    AAGATTCAAACAGACAAGGGGGAACACGGCCATTTTGTGGGGAAGACGCTGC - - TCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                    TTCGTGGAGTCCTTCGATGTGGAGACGCACCCTGAAGCCCAGTGCCCCTATGACTCCCTC
                                                                                                                                                                                     mRNA sequence.
BI219788
BI219788.1 GI
EST.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.I
cDNA Library Preparation: Life Technolog
cDNA Library Arrayed by: The I.M.A.G.E.
DNA Sequencing by: Incyte Genomics, Inc
Clone distribution: MGC clone distribut
                                                                          Unpublished (1999)
Contact: Robert Strausberg,
                                                                                                                                                                                                                                   BI219788
602936219F1 NCI_CGAP_Li9
                                                                                                 NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, 1
                                                                                                                           Mammalia; Eutheria;
1 (bases 1 to 775)
                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Ver
Mammalia; Eutheria; Rodentia; Sciurognathi;
                                                                                                                                                              Mus musculus
                                                                                                                                                                            house mouse
                                                                                                                                                                                                    GI:14673232
 MGC clone distribution
                                                                                                                                                                                                                                       775
Mus
                                                                          Ph.D
                                                                                                                                                                                                                                       musculus
                                                                                                    Mammalian
                         Technologies, Inc.
.M.A.G.E. Consortium
                                                                                                                                                                                                                                                   mRNA
                                                  M.D.
                                                                                                                                                                                                                                        CDNA
                                                                                                                                       Vertebrata;
thi; Muridae;
                                                                                                    Gene
                                                                                                                                                                                                                                       linear
  information
                                                                                                    Collection (MGC)
                                                                                                                                                                                                                                       r EST 11-JUL-2001
IMAGE:5099501 5',
                           (LLNL)
                                                                                                                                                   Euteleostomi;
                                                                                                                                        Murinae;
  can
                                                                                                                                                                                                                                                                                                     839
                                                                                                                                                                                                                                                                                                                                                                           266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86
                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                    723
                                                                                                                                                                                                                                                                                                                                                                                                                           246
                                                                                                                                                                                                                                                                                                                                                                                                                                                   663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206
  bе
```

Mus.

```
д
                                                                                                                                                     Qy
                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
 В
                   Ş
                                           Вþ
                                                               δÃ
                                                                                       В
                                                                                                        δõ
                                                                                                                                                                               망
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x BI219788 (1-775)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nent Scores:
No.:
                                                                                                                                   422
                                                                                                                                                                                                                                                                               141 GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
 602
                                                                 241
                                                                                       482
                                                                                                                                                                               362
                                                                                                                                                                                                     181
                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                        121
                      261
                                                                                                              221
                                                                                                                                                         201
                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                  182
                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                        GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys 180
                                                                                                                                                                                                                                                                                                                                                                                                    PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
          LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                                                                           ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCGGCTACTATTGCTCCTGCAGAGCGGGCTACGTTCTCCACCAGAACAAGCACACGTGC
                                                                                                                                                                                                                                                                    GAATGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                                                                                                                                                           CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
AAGACGCTGCCTCCCAGGATTGAAACTGACAGCCACAAGGTGACCATCACCTTTGCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    http://image.llnl.gov
Plate: LLAM11239 row: e
High quality sequence sto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     quality sequence stop:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Mus musculus"
/strain="FVB/N"
/strain="FVB/N"
/db_xref="taxon:10090"
/clone_lib="NCI_CGAP_Li9"
/clone_lib="NCI_CGAP_Li9"
/lab_host="DH10B (T1 phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1:
Site_2: Sall; Cloned unidirectionally. Primer: Oli
Average insert size 1.9 %b. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
12 a 235 c 195 g 163 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88.28%
81.25%
29.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.05e-105
1099.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   775
208
18
28
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Site_1: NotI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oligo
                                                               260
                                                                                                           240
                                                                                                                                                      220
                                                                                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                                                                                                           181
                                          601
                                                                                     541
                                                                                                                                481
                                                                                                                                                                             421
                                                                                                                                                                                                   200
                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ďΤ
```

```
AI266911/c
LOCUS
                                                                    Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                         Alignment
                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                    NO . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspGluSerGlyAspHisThrGlyTrp-LysIleHisTyrThrSerThrAlaGlnProCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sProTyrProMetAlaProProAsnGlyHisValSerProValGln 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTGATCCAAC-GGCCCACCTATGGCAGAT---TCACCTGTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACGAGTCGGGGAACCACACAGGCTGGGAAGATACACTACACAAGCACAGCACGGCC-TG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1996)
Contact: Marra M/Mouse EST Project
WashU-HHMI Mouse EST Project
Washington University School of Medicinep
4444 Forest Park Parkway, Box 8501, St. Ld
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia: Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; 1 (bases 1 to 820)
1 (bases 1 to 820)
Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuqu Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M., Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B., Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AI266911
uj08e08.x1 Sugano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: mouseest@watson.wustl.edu
This clone is available royalty-free t)
IMAGE Consortium (info@image.lln1.gov)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGI:975658
Possible reversed clone: similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The WashU-HHMI Mouse EST Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AI266911.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMAGE: 1891334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer: custom primer used
                                                                                                                                                         194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 quality sequence stop: !
Location/Qualifiers
                                                                                                                                                                                                              /note-Torgan: liver; Vector: pME18S-FL3; Site_1: DraIII (CACCATGTG); Site_2: DraIII (CACCATGTG); 1st strand cDNA was primed with an oligo(dT) primer [ATCTGGCTATTGTTTTTTTTTTTTTTTTTT]; double-stranded cDNA was primed to a DraIII adaptor [TGTTGGCTACTGG], digested and cloned into distinct DraIII sites of the pME18S-FL3 vector (5' site CACTGTGG, 3' site CACCATGTG). XNOI should be used to isolate the cDNA insert. Size selection was performed to exclude fragments <1.5kb. Library constructed by Dr. Sumio Sugano (University of Tokyo Institute of Medical Science). Custom primers for
                                                                                                                                                         Ø
                                                                                                                                                         Institute of Medical Science). Custom primers for sequencing: 5' end primer CTTCTGCTCTAAAAGCTGCG and 3' primer CGACCTGCAGCTCGAGCACA."

1 214 c 200 g 212 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /sex="female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /strain="C57BL"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="Sugano mouse liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="IMAGE:1891334"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism≖"Mus musculus
  6.57e-96
1009.50
42.10%
38.19%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:3885069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                .57e-96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                820 bp mRNA linear EST 16-NOV-1998 o mouse liver mlia Mus musculus cDNA clone similar to TR:000187 000187 MASP-2 PROTEIN.;,
Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               through LLNL ;
v) for further
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mlia'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Louis,
  820
215
22
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contact the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                  end
```

Score:

Percent Similarity:

Best Local Similarity:

Db 452	5 H	Db 452	Qу 425 Ly	Db 452	Qy 405 Va	Db 452	Qy 385 Va	Db 452	Qy 365 As	452	345 T		Db 452	325 S	452 - 325 S 452 -	305 A 452 - 325 S 452 -	305 A 452 - 452 - 452 -	285 A 452 - 305 A 452 - 452 - 452 -	285 A 452 - 305 A 452 - 325 S	265 H 285 A 305 A 325 S 325 S	265 H 452 - 452 - 325 2 - 452 - 5 325 2 - 5 5 5 8	2450 T 265 H 452 - 452 - 305 S A 52 - 3 25 S S S S S S S S S S S S S S S S S S	4 3 4 2 4 5 5 5 6 0 5 7 0 5 5 2 5 5 5 5 5 5 7 5 7 5 7 5 7 5 7 5 7	225 225 226 226 226 226 226 226 226 226	205 580 5225 520 520 452 452 325 325 325	580 5205 5205 5205 5205 5205 5205 5205 6460 6460 6460 6460 6460 6460 6460 64	185 640 580 580 5205 5225 2245 4460 4452 325 325 4452	700 185 640 580 5205 5225 5225 2245 452 305 452 325	165 700 185 640 205 580 225 245 460 285 305 452 325	145 760 165 7700 185 640 225 520 520 520 245 245 245 245 245 245 245 245 245 245	145 145 165 700 185 185 205 520 520 245 245 245 245 245 245 245 245 245 245	125 125 145 760 165 7700 185 640 205 520 520 520 245 245 245 245 245 245 245 245 245 245
; ; ; ; ;	leTyrGlyGly		sSerLeuF		alAsnAspGlyLys		alThrThrTyr		pCysGlyPro		hrAlaValCys	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		erIlePheCys	rllePheCy	aProProAsn	aProProAsn	pHisThrGl	pHisThrGl	sArglleG	isArgIleGlu isArgIleGlu spHisThrGly laProProAsn laProProAsn	heLeuLySI         CCCTCAAG- isArgIleGspHisThrG- spHisThrG- LaProProA- LaProProA- laProProA- erIlePheC-	TGGACTTCGTG heLeuLysile cCCTCAAG isArgileGlu spHisThrGly spHisThrGly	LeuAspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAsp	FyrProLysLeu	CAGGCCAGGTG CAGGCCAGGTG ACCCCAAGCTC euAspPheVal           TGGACTTCGTG heLeuLysle CCCTCAAG isArglleGlu spHisThrGly LaProProAsn	SerGlyGlnValPheThrGlnArgSerGly	GCTCCTGCAGA GCTCCTGCAGA erGlyGlnVal	ysSerCysArgAla	.laProGlyGluA ::    :::: CTCTGGGAGACT ysSerCysArgA		198-2 (1-686) LysproPheThrG
1 1 1	GlnLysAlaL		roValCysGluP	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tyrvalc		LysAlaVal		ProAspAsp		GlnLysAspG			GluThrGlyT	GluThrGlyT	GlyHisValS	GlyHisVals	TrpLysIleH	rpLysIleH	hrLysSer	ThrLysSerA	GlnThrAspA GlnThrLysSerA TrpLysIleH GlyHisvals GlyHisvals		GluSerPheA            GAGTCCTTCG  GInThrAspA    ThrLysSerA    TrpLysIleH    GlyHisValS	LysLeuSerSerCysThrTyr	TTCACAGGAA ISETSETCYST	PheThrGlna	GCGGGCTACG GCGGGCTACG GCGGGCTACG IIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIII	ArgAlaGlyTyrv AGAGCGGGCTACG AGAGCGGGCTACG AGAGCGGGCTACG AGAGCGGGCTACG AGAGCAGGAA ALLILILIA AGTGTTCACAGGAA ALLILILIA AGTGTCACAGGAA ALLILIA AGTGGAGTCCTTCG AGTGGAGTCGTACAGGAGT AGTGGAGTCGTACGAGGAGT AGTGGAGTCGTACGAGGAGT AGTGGAGTCGTACGAGGAGT AGTGGAGTCGTACGAGGAGT AGTGGAGTCGTACGAGGAGT AGTGGAGTCGTACGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGA	AlaproThrc ::::   TACAGTCCCTT   AlaGLYTYTV		GlyPheGluAla
	ysProGlyAs		roValCysG		ysGluAlaAs		.IleGlnTyrS	1	LeuProSerG	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	lySerTrpAs	1	yrGluLe			erProVa	erProVa	isTyrTh	isTyrTh	snThrVa	snThrValT)	rrgGluGluH	ATGTGGAGACACTGGAGACACTGGAGACACTGGAGACACTGGAGACACTGGAGACACTGGAGACACTGGAGACACTGGAGACACACTGGAGACACACAC	ATGTGGAGAU  IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	hrTyrSerI	GATCTTGGGT  THITTY SETI.  THITTY SETI.  THITTY SETI.  CCTACAGCA  CCTACAGCA  ATGTGGAGA  ATGTGGAGA  ATGTGGAGA  ATGTTGGAGA  ATGTT	rgSerGlyG		TyrvalLeuHisAr	hrCysAspHisHi	ACCTTCTATG  Sysasphish	11 (1-820)  (laPheTyrAlaAlaClaPheTyrAlaAlaCll
	pPheProT		lyLeuSerAl	1	spGlyPheTr		erCysGluGl		lyArgValGluTyr		spArgProMe	1	uLeuGlnGlуНі		1	lnAlaLysTy	nAlaLys	rThrAlaG	rThrAlaG	IleThr ThrAla AlaLys	hrIleThrPl	isGlyProPl	CGCACCCTG isGlyProph hr IleThrPh	hrHisProG             GCACCCTGJ  isGlyProP	leSerLeuG]	ATCTCAGTAK ATCTCAGTAK ATCTCAGTAK	yGluLeuSerSerI	AGAACAAGCJ AULeuSerss	ArgAsnhysai Agaachagc Agaachagc AlleuSerSg	isCysHisAs ::      ::      ::      ::	LEALIGE LANGE LANG	) laalaGluAspI:
	rpGlnValLe		laArgThrThrG		pThrSerS		luThrPheTy		luTyrIleThrG		etProAlaCys:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	isLeuProLe			rIleLeuLy	rlleLeuLy	nProCysPr	nProCysPr	eValThrAs	hrAs	heCysGlyLy heValThrAs heValThrCysPr	AAGGCCAGTG heCysGlyLy heValThrAs heValThrAs LnProCysPr	lluThrLeuCy	LuGluGlyPh   :::      aGGACGCTT luThrLeuCy   I  AAGCCAGTG heCysGlyLy	TITLE TO THE PROPERTY OF THE P	rSerProGluTyrPr	ACACGTGCTC erProGluTy Gl[		ASHISLEUGLY    :::  AACTACTGGGCG  ArgThrCysSer  CAACGTGCTAC  SerProGluTyr	::	spileAspGluc   :::        :::         :::         :::
	uIleLeuGly	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ırGlyGlyArg	1	erLysGlyGlu		heTyrThrMetLys		rGlyProGly	1 1 1 1 1 1	sSerIleVal		LeuLysSerPhe			sAspSerP	sAspSerP	oTyrProM	OTYrProM	pGluSerG	pGluSerG	sThrLeup		SPROTYRASP	SerIleSerLeuGluGlyPheSerValIle	eSerVallie eSerVallie	rrProArgPro     :::     CCCACAGCCA     :::     CAGTGTCATC CAGTGTCATC SPROTYRASP  CCCTATGAC SThrLeupro PGluSerGly SASpSerPhe SASpSerPhe	AGCCCTTTGT AGCCCTTTGT TPTOATGPTO CCCLEACCACACCC LILLIANT CAGTGTCATC SThrLeuPro SThrLeuPro pGluSerGly pGluSerGly coTyrProMet saspSerPhe		auGlyGlyPheTyr   GGCGGGCTACTAT    GGCGGGCTACTAT    SSETALLEUCYS    T	SPACE AND SET PART ATGAATCCAAAGTG euGlyGlyPheTyr GGGCGGGCTACTAT GGGCGGGCTACTAT GCTCAGCCCTTTGT IUTyrProArgpro AGTACCCACAGCCA L	uCysGlnVal   :::     :::     :::     :::       :::       :::
452	464	452	444	452	424	452	404	452	384	452	364	452	344		452	45	45	45 45 45	4 2 4 2 4	2 4 2 4 2	4 2 4 2 4	2 4 2 4 2 4	4 4 4 4 4 4 4	24242424	2 2 4 4 4 4 4 4 4 4 4	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	α τ υ α 4 α 4 α 4 α 4 α 4 α 4 α 4 α 4 α 4 α	0 U U U U U U U U U U U U U U U U U U U	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 3 4 3 4 2 4 2 5 2 5 2 6 1 7 1	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 3 4 3 4 2 4 2 5 2 5 2 5 1 7 1 7 1

TITLE JOURNAL COMMENT	SOURCE ORGANISM REFERENCE AUTHORS	RESULT 4 BB653589 LOCUS DEFINITION ACCESSION VERSION KEYWORDS	Qy 68 Db 1	Ду 66 Дb 7	Qy 64 Db 13	Qу 62 Db 19	Qy 60. Db 25	Qy 58 Db 31	Qy 56 Db 37	Qy 54 Db 43	Qy 52 Db 45	Db 45	ОУ 50	Db 45	ОУ 48	Db 45	ОУ 46
M. KOya,S., Matsuyama,T., Miyazaki,A., Nomura,K., Oho,M., Okazaki,Y., Okido,T., Saito,R., Sakai,C., Sakai,K., Sano,H., D., Shibata,K., Shinagawa,A., Shiraki,T., Sogabe,Y., Suzuki Tagami,M., Tagawa,A., Takahashi,F., Takeda,Y., Tanaka,T., Tc Muramatsu,M. and Hayashizaki,Y. RIKEN Mouse ESTs (Arakawa,T., et al. 2001) Unpublished (2001) Contact: Yoshihide Hayashizaki Laboratory for Genome Exploration Research Group, RIKEN Genc Sciences Center(GSC), Yokohama Institute	House mouse.  Mus musculus  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleos  Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae  Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae  Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae  1 (bases 1 to 699)  Arakawa, T., Carninoi, P., Fukuda, S., Furuno, M., Hanagaki, T.,  Buranata K. Unori E. Tehti V. Tto M. Kausi T. Konoo u	BB653589  I BB653589 RIKEN full-length enriched, adult male liver tumor musculus cDNA clone C730007H22 5', mRNA sequence.  BB653589  BB653589.1 GI:16487417  EST. BOOK TO THE PROPERTY OF THE	184 rAspPhe 686 	64 yGloTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSe 68 	4 rGluargTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGlualaGl 6   :::	24 yGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluTh 644 	4 sProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGl 	4 nLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLy	65 Asp-AspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAs 584         :::	45 AsnSerAsnIleThrProlleCysLeuProArgLysGluAlaGluSerPheMetArgThr 564	5 HisaspalaGlyPheaspasnaspIleAlaLeuIleLysLeuAsnasnLysValValIle 5	52 45	5 LeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThr 5	52 45	5 ValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArg 5	52 45	65 GlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAla 484
Sasaki ,H., ya,T.,	mi; Mus. Mus.	OCT-2001		0 84	0 64	10	624 200	604 257	84 17	64 77	44 37	52	24	52	04	52	34

```
Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
  US-09-874-198-2
                                                               Query
                                                                                                                                                   Pred.
                                                                                                                                                                     Alignment
                                                                                                                                                                                                                                     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                 No . .
                                                               Match:
                                                                                                                                                                   Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., It,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E., Watahlki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuu,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ,Y. and Hayashizaki,Y.

Computer-based methods for the mouse full-length cDNA
encyclopedia: real-time sequence clustering for construction of a
nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
Kondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Aizawa
,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequencing pipeline with 384 murticapiliary se 10 (11), 1757-1771 (2000) Konno,H., Fukunishi,Y., Shibata,K., Itoh,M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hayashizaki, Y
RIKBN integrated sequence analysis (RISA) system--384-format
sequencing pipeline with 384 multicapillary sequencer. Genome
10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               further details
e mouse tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hayashizaki,Y.
                                                                                                                                                                                                                                146
(1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Institute of Physical and Chemical Research (RIKEN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suehiro-cho,
                                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                              was cleaved with BamHI and XhoI. Vector: a modified pBluescript KS(+) after bulk excision from Lambda FLC] pBluescript KS(+) after bulk excision from Lambda FLC] Tissue was provided by William A. Held, Roswell Park Cancer Institute, Department of Molecular and Cellular Biology, Elm and Carlton Streets, Buffalo, NY 14263, whas sistance we gratefully acknowledge."
                                                                                                                                                                                                                                                                                                                                                                           prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contributed to prepare mouse tissues. 1st strand cDNA was primed with a primer [5^\prime]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="Site_1: SalI; Site_2: BamHI; cDNA library was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /lab_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="liver tumor"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="RIKEN full-length enriched, adult male liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="C730007H22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                         1.93e-95
1004.00
88.50%
80.97%
26.72%
x BB653589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            host-"DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tsurumi-ku,
                                                                                                     Length:
Matches:
Conservative:
                                                           Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yokohama,
                                     183
17
26
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carninci, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matsuura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                           γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
```

```
JOURNAL COMMENT
                                                                                                                                                                                                      KEYWORDS
SOURCE
                                                                                                                                                                                                                                   ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                               AI248851/c
LOCUS
                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                680
                                                                                                                                                                                                                                                                                                                                                                                                                                           620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
                                                                                                                                                                                                                                                                                                                                               Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCAGTGTCATCCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                         PheSerValileLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGCCCTTTGTTCAGGCCAGGTGTTCACAGGAAGATCTGGGTATCTCAGTAGCCCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCGGCTACTATTGCTCCTGCAGAGCGGGCTACGTTCTCCACCAGAACAAGCACACGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAATGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                          TACCCACAGCCATACCCCAAGCTCTTCAGCTGCACCTACAGCATCCGCCTGGAGGACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGTGGCCTGAACCTGTATTCGGGCGCCTTGGTGTCCCCTGGCTTCCCAGAGAAGTATGCT
                                                                                                                                                                                                                                                                                AI248851 575 bp mRNA linear qh72h07.x1 Soares_fetal_liver_spleen_lNFLS_S1 Homo clone IMAGE:1850269 3' similar to TR:000187 000187
                                                             Tumor Gene Index
Unpublished (1997)
Contact: Robert Strausberg,
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anat
                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae.

1 (bases 1 to 575)
                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                     AI248851
                                                                                                                                                                                                        numan.
                                                                                                                                                                                                                                                                  sequence
                                                                                                                                                                                                                                     GI:3844248
                                                                                                                                                                                                                                                                                                                                                                              : 697
                                                              Ph.D.
                                                                                                                                                         Hominidae;
                                                                                                            Project
                                                                                                                                                                                                                                                                                sapiens
MASP-2 p
                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                             EST 01-DEC-1998
                                                                                                                                                                                                                                                                                                CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79
                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90
```

```
Qγ
                                                                                QΥ
                                                                                                                Вþ
                                                                                                                                         δδ
                                                                                                                                                                         Ър
                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                         Ş
                                                       В
                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
В
                                                                                                                                                                                                                                                                                       멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-874-198-2 (1-686) x AI248851 (1-575)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No : :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OUNT
                            537
                                                                                     517
                                                                                                                 156
                                                                                                                                            497
                                                                                                                                                                         216
                                                                                                                                                                                                     477
                                                                                                                                                                                                                                  276
                                                                                                                                                                                                                                                            457
                                                                                                                                                                                                                                                                                         336
                                                                                                                                                                                                                                                                                                                    437
                                                                                                                                                                                                                                                                                                                                                396
                                                                                                                                                                                                                                                                                                                                                                           417
                                                                                                                                                                                                                                                                                                                                                                                                        456
                                                                                                                                                                                                                                                                                                                                                                                                                                                               515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   357
36
                                                        96
                                                                                                                                                                                                                                                                                      LysLeuAsnAsnLysValValIleAsnSer
                                                                       ValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIle 536
                                                                                                                                                                                         TrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAsp 496
                                                                                                                                                                                                                                                                                                                                                                                                                    GluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGly 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAATGCCCGCGTGCAGCATTGTTGACTGTGGCCCTCNTGATGATCTACCCAGTGGCNGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArg
AAATTGAATAACAAAGTTGTAATCAATAGC
                                                        GTTTTTATACATGAAGGTTATACTCATGATGCTGGCTTTGACAATGACATAGCACTGATT
                                                                                                                 ATTCGAATGGGCACCCTGAAAAGACTATCACCTCATTATACACAAGCCTGGTCTGAAGCT
                                                                                                                               IleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAla
                                                                                                                                                                         TGGGTCCTAACAGCTGCTCATGCCGTCTATGAGCAAAAACATGATGCATCTGCCCTGGAC
                                                                                                                                                                                                                                  CCTTGGCAAGTCCTGATATTAGGTGGAACCACAGCAGCAGCTGCACTTTTATATGACAAC
                                                                                                                                                                                                                                              ProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsn
                                                                                                                                                                                                                                                                                                                                                                                                        GCGGAGTACATCACAGGTCNTGGAGTGAC-ACCTACAAAGCTGTGATTCAGTACAGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               quality sequence stop: 429.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="IMAGE:1850269"
/clone_lib="Soares_fetal_liver_spleen_1NFLS_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.28e-92
976.00
97.37%
97.37%
97.37%
25.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative:
                            546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         575
185
0
5
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _S1.
                                                                                                                                                                                                                                                              476
                                                                                                                                                                                                                                                                                                                     456
                                                                                                                                                                                                                                                                                                                                                                             436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        516
                                                        37
                                                                                                                                                                         157
                                                                                                                                                                                                                                                                                       277
                                                                                                                                                                                                                                                                                                                                                  337
                                                                                                                                                                                                                                                                                                                                                                                                         397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   376
                                                                                                                 97
                                                                                                                                            516
                                                                                                                                                                                                                                  217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
AW275493/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                   20
                                                                                                                Вþ
                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                         γ
                                                       Дb
                                                                                                                                           δÃ
                                                                                                                                                                         밁
                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
 밁
                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x AW275493 (1-544)
                                                                                                                                                                                                                                                              DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                    Score:
                                                                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                    No.:
 364
                            422
                                                        424
                                                                                     402
                                                                                                                 484
                                                                                                                                            382
                                                                                                                                                                         544 GCAATTGTTGACTGTGGCCCTCCTGATTATCTACCCAGTGGCCGAGTGGAGTACATCACA
GlyProGlyValThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyr
                                                                                                                                                                                         SerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThr
                                                                      ThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSerSer 421
                                                                                                                GGTCCTGGAGTGCCCACCTACAAAGCTGTGATTCAGTACAGCTGTGAAGAGACCTTCTAC
                                                          CCAATGAAAGTGAATGATGGTAAATATGTGTGTGAGGCTGATGGATTCTGGACGAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence.
AW275493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Christopher A. Moskaluk,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA Library Preparation: Life Technologies, Inc CDNA Library Arrayed by: Greg Lennon, Ph.D. DNA Sequencing by: Washington University Genome Clone distribution: NCI-CGAP clone distribution found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AW275493.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        xn06c10.x1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tumor Gene Index
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW275493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Possible reversed clone: polyT not found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R. Emmert-Buck, M.D., Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer: -40UP from Gibco
                                                                                                                                                                                                                                                                                                                                                                                          138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 quality sequence stop: 1.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             considered overall poor quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:2692914"
/clone_lib="NCI_CGAP_Li5"
/tissue_type="hepatic adenoma"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                            മ
                                                                                                                                                                                                                                                                                                                                                                                         /note="Organ: liver; Vector: pCMV-SPORT4; Site_1: SalI; Site_2: NotI; Cloned unidirectionally. Primer: Oligo d Average insert size 0.8 kb."

132 c 119 g 155 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       544 bp mRNA linear EST 03-JAN-2000 NCI_CGAP_L15 Homo sapiens cDNA clone IMAGE:2692914 3' TR:000187 000187 MASP-2 PROTEIN PRECURSOR. ;, mRNA
                                                                                                                                                                                                                                                           4.04e-90
952.00
97.79%
97.24%
25.33%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:6662446
                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ж.
О.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Project (CGAP),
```

dT

401 485

425

365

Ph.D.,

Michael

Center

be

```
RESULT 7
AI226038
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                     Unpublished (1966)
Contact: Marra M/Mouse EST project
Washb-HHMI Mouse EST project
Washbington University School of Medicinep
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: mouseest@watson.wustl.edu
This clone is available royalty-free through LLNL; cor
IMAGE Consortium (info@image.llnl.gov) for further info
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Val 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGlyThr 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCATGCCGTCTATGAGCAAAAACATGATGCATCTGCCCTGGACATTCGAATGGGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AI226038 729 bp mRNA linear EST 29-Ou uj08e08.yl Sugano mouse liver mlia Mus musculus cDNA clone IMAGE:1891334 5' similar to TR:000187 000187 MASP-2 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                     Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dub
Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M.,
Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B.,
Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus
Eukaryota; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mRNA sequence.
AI226038
AI226038.1 GI:3809091
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; 1 (bases 1 to 729)
                                                                                                                                                                                                               MGI:975658
Possible reversed clone: similarity on
                                                                                                                                                                                                                                                                                                                                                                             The WashU-HHMI Mouse EST Project
                                                                                                                                                                                                                                                                                                                                                                                           Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ŋ
                                                                                                                                                                                                   primer: custom primer used
                                                                                                                                                                                      quality sequence stop:
                                                                              /clone="IMAGE:1891334"
/clone_lib="Sugano mouse
/sex="female"
/note="Organ: liver; Vector: pME18S-FL3; Site_1: DraI
(CACTGTGTG); Site_2: DraII (CACCATGTG); 1st strand c.
was primed with an oligo(dT) primer
[ATGTGGCCTTTTTTTTTTTTTTTTTT]; double-stranded cDNA was
                                                                                                                       /strain="C57BL"
/db_xref="taxon:10090"
                                                      /dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                 ∕organism="Mus musculus"
                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                        510.
                                                                                              liver
                                                                                                                                                                                                               wrong
                                                                                              mlia"
                                                                                                                                                                                                                                            further information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muridae;
                           Site_1: DraIII
1st strand cDNA
                                                                                                                                                                                                                                                                                                             63108
                                                                                                                                                                                                                                                       contact the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 29-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                           Dubuque,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                245
                                                    RESULT 8
BG916805/c
LOCUS
                                                                                                                                Š
                                                                                                                                                             В
                                                                                                                                                                                     Š
                                                                                                                                                                                                               В
                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
 VERSION
             ACCESSION
                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
```

```
US-09-874-198-2 (1-686) x AI226038 (1-729)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                685
                                                                                                                                            202
                                                                                                                                                                        625
                                                                                                                                                                                                 182
                                                                                                                                                                                                                              565
                                                                                                                                                                                                                                                         162
                                                                                                                                                                                                                                                                                    505
                                                                                                                                                                                                                                                                                                               142
                                                                                                                                                                                                                                                                                                                                           445
                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                  385
                                                                                                                                                                                                                                                                                                                                                                                                                              102
                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Мо
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                             AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
                                                                                                                                                                                                                                          GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer
                                                                                                                                                                                                                                                                                                   CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                GlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGCTACTCATCTTCCTGGGTCTGCTGGGAGTTTGGTGGCCACACTTCTGGGTTCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyProLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scores:
                                                                                                                                                                                                                             GGCTACTATTGCTCCTGCAGAGCGGGCTTACGTCTCCACCAGAACAAGCACACGTGCTCA
                                                                                                                                                                                                                                                                                    TGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTGNGC
                                                                                                                                                                                                                                                                                                                                         TCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGATGAA
                                                                                                                                                                                                                                                                                                                                                      GGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGGAGTACAGACACTGAGCAGGCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGCCTGAACCTGTATTCGGGCGCCTGGTGTCCCCTGGCTTCCCAGAGAAGTATGCTGAC
mRNA sequence.
BG916805
BG916805.1 GI:
                                       BG916805
602816060F1 NCI_CGAP_Mam6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ligated to a DraIII adaptor [TGTTGGCCTACTGG], digested and cloned into distinct DraIII sites of the pMEL8S-FL3 vector (5' site CACTGTGTG, 3' site CACTGTGTG, 3' set CACTGTGTG, 3' with a set to isolate the cDNA insert. Size selection was performed to exclude fragments <1.5kb. Library constructed by Dr. Sumio Sugano (University of Tokyo Institute of Medical Science). Custom primers for sequencing: 5' end primer CTTCTGCTGAAAAGCTTGCG and 3' er primer CGACCTGCAGCTCGAGCACA."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.39e-87
930.00
86.92%
79.44%
24.75%
                                                         739
                                           Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
                                                       þp
                                           musculus
                                                       mRNA
                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   729
170
16
28
0
                                                      linear
                                           clone IMAGE: 4935207
                                           05-JUN-2001
:4935207 5',
                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                           1.21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144
                                                                                                                                                                                                                             624
                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                         504
                                                                                                                                                                                                                                                                                                                                                                                                 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                       384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                        684
                                                                                                                                                                                                                                                                                   564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  should
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end
```

```
KEYWORDS
SOURCE
                                                                                              Вр
                                                                                                                            Q
                                                                                                                                                             Ъ
                                                                                                                                                                                                                            DЬ
                                    밁
                                                               QY
                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                      ζ
 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2 (1-686) x BG916805 (1-739)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No . .
    561
                                                                                                 496
                                                                                                                                 521
                                                                                                                                                               556
                                                                                                                                                                                              501
                                                                                                                                                                                                                              616
                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                           676
                                                                                                                                                                                                                                                                                                                           462
                                                                                                                                                                                                                                                                                                                                                                                        442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ource
                                                                                                                                                                                                                         GlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeu
                                                                                                                                                           ATCCTCATAAGGCTCTCACCTCATTACACTCAAGCCTGGCCCGAGGAAATCTTTATACAT
                                                                                                                                                                                         ThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHis
PheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPhe
                                  AAAGTCACAATCAACGGAAGCATCATGCCTGTTTGCCTACCGCGAAAAGAAGCTGCATCC
                                                 LysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSer
                                                                                                                                                                                                                                                                                           TTGCTGGGTCTTACTACAGCAGCAGCAGGTGCACTTAGACATGACCATTGGGTCCTAACA
                                                                                                                                                                                                                                                                                                                                                        GGAGGACGCATAGTTGGAGGGCAGCCTGCAAAGCCTGGTGACTTTCCTTG-CAATTCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM10865 row: g column: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Muses 1 to 739)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tissue Procurement: Jeffrey Green M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               e: LLAM10865 row: g column: 16 quality sequence stop: 739. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: Sal
Site_2: NotI; Cloned unidirectionally. Primer: Oligo of
Library constructed by Life Technologies. Investigator
providing samples: Jeffrey Green, M.D., NIH"
a 192 c 170 g 200 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="NCI_CGAP_Mam6"
/sex="female, virgin"
/tissue_type="infiltrating ductal carcinoma"
/dev_stage="5 months"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /strain="FVB/N"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="IMAGE:4935207"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.98e-86
914.00
84.58%
77.08%
24.32%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    739
185
18
32
6
                                                                                                                                                                                         520
                                                                                                437
                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                       480
                                                                560
                                                                                                                              540
                                                                                                                                                             497
                                                                                                                                                                                                                            557
                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                        677
                                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SalI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ď
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 9
BF532409
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
               Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                            Percent Similarity:
Best Local Similarity:
                                                         Score:
                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                            FEATURES
                                                                      Pred.
                                                                                 Alignment
                                                                                                                          BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                          COUNT
                                                                                                                                                                                                                                                                              source
                                                                      No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIIeAsnTyrI1ePro 677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGln-LysCysThr-A 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGGGGCGGCAGACCAGTATGGGGTCTACACAAAAGTCATCAACTATATTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCTAGAAACCTAATGTTTGTGGACATACCAATTGCTGACCACCATAAAATGTACCAG
                                                                                                                                                                                                                                                                                                                                                         Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
                                                                                                                                                                                                                                                                                                                    http://image.llnl.gov
Plate: LLAM9780 row: d column:
                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BF532409.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence
BF532409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          602074450F1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BF532409
                                                                                                                                                                                                                                                                                                                                               found through the I.M.A.G.E. Consortium/LLNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to
                                                                                                                          125
                                                                                                                                                                                                                                                                                                       quality sequence stop: 600.
                                                                                                                          D
                                                                                                                      /clone_lib="NCI_CGAP_Li9"
/lab_host="DHIOB (TI phage-resistant)"
/note="Organ: liver; Vector: pcMV-SPORT6; Site_1
Site_2: SalI; Cloned unidirectionally. Primer: C
Average insert size 1.9 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 175 c 156 g 144 t
                                                                                                                                                                                                                      /organism="Mus musculus"
/strain="FVB/N"
/db_xref="taxon:10090"
/clone="IMAGE:4211293"
                                                                                                                                                                                                                                                                                        Location/Qualifiers
3.19e-82
878.00
88.38%
80.81%
23.36%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:11619772
                                                                                                                                                                                                                                                                               . 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCI_CGAP_Li9 Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
            Indels:
                            Mismatches:
                                         Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp mRNA linear EST 11-DEC-2000 musculus cDNA clone IMAGE:4211293 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalian
                                                                                                                                                                                                                                                                                                                       14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene
 160
160
15
23
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Collection
                                                                                                                                                                              Site_1: NotI;
                                                                                                                                                                                                                                                                                                                                                                                         (LLNL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26
                                                                                                                                                                                                                                                                                                                                                              can
                                                                                                                                                                  Oligo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 257
                                                                                                                                                                                                                                                                                                                                                              be
```

US-09-874-198-2 (1-686) x BF532409 (1-600)

```
REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
BF236712
                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                              FINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        σ
                                                                                                             SM Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleoston
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mammalia; Chaeses 1 to 884)

NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)

Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CONA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGCCCTTTGTTCAGGCCAGGTGTTCACAGGAAGATCTGGGTATCTCAGTAGC 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCAGGGACCAAGGTGCTGGCCACACTGTGGGGCAGGAGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCACCCACTTTGACCTGGAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACCATCAAGATCGATCCTGGACACTGACTGCACCCCCTGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGTGGCCTGAACCTGTATTCGGGCGCCTGGTCTCCCTGGCTTCCCAGAGAAGTATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGCTACTCATCTTCCTGGGTCTGCTGGAGTTTGGTGGCCACACTTCTGGGTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
BF236712
BF236712.1 GI
                                                                                                                                                                                                                                                                                                                                                                                           BF236712
602028006F1 NCI_CGAP_L19
                                                               found through the I.M.A.G.E. Consortium/LLNL http://lmage.llnl.gov plate: LLAM9447 row: k column: 01
                                                                                                                                                                                                                                                                                                                        EST.
house mouse
                                          quality sequence stop:
Location/Qualifiers
/organism="Mus
/strain="FVB/N"
                               . 884
                                                                                                                                                                                                                                                                                                                                                                                              884
Mus
                                                         615.
                                                                                                                                                                                                                                                                                                                                                                                            bp mRN
                                                                                                                                                                                                                                                                                                                                                                                                            mRNA
                                                                                                                                                                                                                                                                                                                                                                                            NA linear EST 14-NOV-2000 CDNA clone IMAGE:4163448 5',
                                                                                                                                                                                                                                                                            Euteleostomi; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                  ğ
```

```
Ş
                                                            20
                                                                                                    50
                                         В
                                                                                   В
                                                                                                                          В
                                                                                                                                             Ş
                                                                                                                                                                   밁
                                                                                                                                                                                     δÃ
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            о
: :
                    246
                                                                                   604
                                                                                                     207
                                                                                                                          544
                                                                                                                                               187
                                                                                                                                                                    484
                                                                                                                                                                                        167
                                                                                                                                                                                                            424
                                                                                                                                                                                                                                147
                                                                                                                                                                                                                                                     365
                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                               305
                                                                                                                                                                                                                                                                                                                  107
                                                                                                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                         125
  723
                                                                                                                                                                                                                                                                                                                                                           87
                                                                                                                                                                                                                                                                                                                                                                                                     67
                                                                                                                                                                                                                                                                                                                                                                                                                                             47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27
                                                                                                                                                                  LeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyProLysTrpProGluProVal
                                                                                              LysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIle-LeuAs
                                                                                                                                    GlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyrPro
                                                                                                                                                                                                                                                                                                                                                                                          GluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                  TrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrH1sPheAspLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArg
 CTCAGATTTTAACAGACAGGG-----
                 LeuLysIle---GlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuPro
                                                   pPheValGlu-SerPheAspValGluThrHisProGlu-ThrLeuCysProTyrAspPhe
                                                                                                                          CAGGTGTTCACAGGAAGATCTGGGTATCTCAGTAGCCCTGAGTACCCACAGGCATACCCA
                                                                                                                                                                                                                                                                                                                                                                               GAACTCTCTTACCGCTGCGAGATATGACTTGTCAAGTTGAGCTCAGGGACCAAGGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                         TIGGACACTIGACCCCCCTIGGCTACCGCCTGCGCCTCTACTTCACCCACTTTGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGGTCTGCTGGAGTTG-GTGGCCACACTTCTGGGTTCAAAGTGGCCTGAACCTGTA
                                                                                  AG-CTCTCCAGCTGATCCTAAAGGATCGCCCTGGAGGAGGCTTCAGGGGTCATCCCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:10090"
/clone="IMAGE:4163448"
/clone="b="NCI_CGAP_Li9"
/clone=lib="NCI_CGAP_Li9"
/lab_host="DH10B (T1 phage-resistant)"
/note="organ: liver; Vector: pCMV-SPORT6; Site_1: iSite_2: Sall; Cloned unidirectionally. Primer: Oli-Average insert size 1.9 kb. Constructed by Life archnologies. Note: this is a NCI_CGAP Library."
a 256 c 252 g 185 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.02e-82
878.00
79.77%
72.14%
23.36%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   x BF236712 (1-884)
-GACACCGGCCCT---TGTGGGAAAGCCGGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        884
189
20
46
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oligo
                                                                                                                                                                                                                               166
                                                                                                                                                                                                                                                                         146
                                                                                                                                                                                                                                                                                                                 126
                                                                                                                                                                                                                                                                                                                                                          106
                   264
                                                            245
                                                                                 662
                                                                                                                          603
                                                                                                                                                                  543
                                                                                                                                                                                      186
                                                                                                                                                                                                           483
                                                                                                                                                                                                                                                    423
                                                                                                                                                                                                                                                                                                                                                                                                   86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NotI;
 773
                                         722
                                                                                                     226
                                                                                                                                              206
                                                                                                                                                                                                                                                                                              364
                                                                                                                                                                                                                                                                                                                                      304
                                                                                                                                                                                                                                                                                                                                                                                                                         1.84
                                                                                                                                                                                                                                                                                                                                                                                                                                             66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                               244
```

```
В
                                                                                                                          δÃ
                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
BF233993
                                  멍
                                                         Qy
                                                                                                                                                                                        Qy
                                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
Qγ
                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE
                                                                                                                                                                                                                                                                                                                                                                                                               Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO : :
   113
                                  283
                                                                                              224
                                                                                                                                                            165
                                                                                                                                                                                                                        105
                                                                                                                                                                                                                                                                                                                                                 874-198-2 (1-686) x BF233993
                                                               93
                                                                                                                           73
                                                                                                                                                                                         53
                                                                                                                                                                                                                                                      34
                                                                                                                                                                                                                                                                                     45
                                                                                                                                                                                                                                                                                                14 ValAlaThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerPro
                                                                                         oGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGl
uAspIleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPh
                                                                                                                                                          TGGCTACCGCCTGCGCCTCTACTTCACCCCACTT-GACCTGGAACTCTCTTACCGCTGCGA
                                                                                                                                                                                                                                                                                     GTGGCCACACTTCTGGGTTCAAAGTGGCCTGAACCTGTATTCGGGCGCCTGGTGTCCCCT
                                                                                                                                                                                                                                                                                                                                                                                                               Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tissue Procurement: Jeffrey E. Green, M.D. CDNA Library Preparation: Life Technologies, Inc. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BF233993
602024479F1 NCI_CGAP_Li9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BF233993
BF233993.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plate: LLAM9438 row: m column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        found through the I.M.A.G.E. Consortium/LLNL http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria;
1 (bases 1 to 678)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             quality sequence stop:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:10090"
/db_xref="taxon:10090"
/clone="IMAGE:4160058"
/clone=1b="NCI_CGAP_LI9"
/clone=1b="NCI_CGAP_LI9"
/lab_host="DHIOB (TI phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: NotI;
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: NotI;
/site_2: SalI; Cloned unidirectionally. Primer: Oligo dT
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT
Average insert size 1.9 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 203 c 181 g 150 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="FVB/N"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                  1.98e-77
833.50
86.45%
78.50%
22.18%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 678
                                                                                                                                                                                                                                                                                                                                                 (1-678)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          678
Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             646.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp mRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA clone IMAGE:4160058
                                                                                                                                                                                                                                                                                                                                                                              678
168
17
25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 14-NOV-2000
GE:4160058 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Murinae;
                                                                                            282
                                                                                                                                                                                        73
                                                                                                                           93
                                                                                                                                                          223
                                                                                                                                                                                                                       164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus.
```

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
AA706982/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       erGlyGluLeuSerSerProGluTyrProArgProTyrProLysLeu·SerSerCysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAGGTCACCTTCCACTCCGACTACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGGTATCTCAGTAGCCCTGAGTACCCACAAGCATACCCCAAGCTCTACCAGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSerCys-ArgAlaGlyTyrVall 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                eTyralaAlaGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAs 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAGCATTCGCTGAGGACGG---TTCAGTGTAATC 675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrSerIleSerLeuGluGluGlyPheSerValIle 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTATGCAGCGGAGGATGTGGATGAATGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA706982 475 bp mRNA linear EST 24-
zi20h03.s1 Soares_fetal_liver_spleen_lNFLS_S1 Homo sapiens
clone IMAGE:431381 3' similar to TR:000187 000187 MASP-2 PF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Wilson RK
Washington University Scho
4444 Forest Park Parkway,
                                                                                                                                                                                                                                                                                                                                                                                                          This clone is available royalty-free through LINL; contact the IMAGE Consortium (infoimage.llnl.gov) for further information. Possible reversed clone: similarity on wrong strand Seq primer: -40ml3 fwd. ET from Amersham
High quality sequence stop: 390.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               White,Y., Wylie,T., Waterst
WashU-NCI human EST Project
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hillier, L., Allen, M., Bowles, L., Krizman, D., Kucaba, T., Lacy, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 475)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA706982.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 numan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               izman,D., Kucaba,T., Lacy,M., Le,N., Lennon,G., Marra,M., Martin
., Moore,B., Schellenberg,K., Steptoe,M., Tan,F., Theising,B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
                                                                                 /dev_stage="20 week-post conception fetus"
/lab_host="DH10B (ampicillin resistant)"
/note="Organ: Liver and Spleen; Vector: pT7T3D (Pharmacia)
with a modified polylinker; Site=1: Pac I; Site=2: Eco RI;
This is a subtracted version of the original Soares fetal
liver spleen lNFLS library. 1st strand cDNA was primed
with a Pac I - oligo(dT) primer [5'
                          double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Pac I and cloned into the
(Pharmacia), digested with Pac I and cloned in and Eco RI sites of the modified pT7T3 vector.
                                                                      /organism="Homo sapiens"
/db_xref="GDB:1331150"
/db_xref="taxon:9606"
/clone="IMAGE:431381"
                                                                                                                                                                                                                                           /sex="male"
                                                                                                                                                                                                                                                               /clone_lib="Soares_fetal_liver_spleen_1NFLS.
                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:2716900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Waterston, R. and Wilson, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               School of Medicine way, Box 8501, St. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dubuque, T., Geisel, G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  St. Louis, MO 63108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jost, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROTEIN.
      Library
                            the Pac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                402
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE CO
                                                                                                                                                                                                                                         VERSION
                                                                                                                    COMMENT
                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-874-198-2 (1-686) x AA706982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment
                                                                                                                           AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                  13
497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NO . .
                                                                                                                                                                                                                                                                                                                                                                    526
                                                                                                                                                                                                                                                                                                                                                                                              115
                                                                                                                                                                                                                                                                                                                                                                                                                     506
                                                                                                                                                                                                                                                                                                                                                                                                                                              175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                475
                                                                                                                                                                                                                                                                                                                                           55
                                                                                                                                                                                                                                                                                                                                        ASPAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValVal 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGGAGGGCAAAAGGCAAAACCTGGTGATTTTCCTTGGCAAGTCCTGATATTAGGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrGlyGlyGlnLysAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGly
                                                                                                                                                                                                                                                                                                                                                                                          TCACCTCATTATACACAAGCCTGGTCTGAAGCTGTTTTTATACATGAAGGTTATACTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                           TATGAGCAAAAACTTGATGCATCTGCCCTGGACATTCGAATGGGCACCCTGAAAAGACTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCACAGCAGCAGGTGCACTTTTATATGACAACTGGGTCCTAACAGCTGCTCATGCCGTC
                                                                                                                                                                                                                            mRNA sequence.
BF233497
BF233497.1 GI:
EST.
Email: cgapbs-remail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM9437 row: b column: 24
                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; 1 (bases 1 to 752)
                                                                                                                                                                                                                                                                            BF233497
602024289F1 NCI_CGAP_Li9
                                                                                                              Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                    Mus musculus
                                                                                                                                                                                                                   house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      went through one round of normalization. constructed by Bento Soares and M.Fatima a 111 c 97 g 146 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.38e-77
827.00
98.10%
98.10%
22.01%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (1-475)
                                                                                                                                                                                                                                                                             752
Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                            bp mRN
musculus
                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                             CDNA
                                                                                                                                       Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      475
155
0
3
0
                                                                                                                                                                                                                                                                            linear
clone I
                                                                                                                                       Collection
                                                                                                                                                                                                                                                                            r EST 14-NOV-2000
IMAGE:4159415 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Library
Bonaldo.
                                                                                                                                                                         Euteleostomi;
; Murinae; Mus
                                       can
                                                                                                                                                                                                                                                                                                                                                                                                                  525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     425
                                                                                                                                                                                                                                                                                                                                                                                                                                           116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       405
                                                                                                                                                                                                                                                                                                                                                                                          56
                                     be
```

```
RESULT 14
AL022666/c
LOCUS
                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-874-198-2 (1-686) x BF233497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
    VERSION
                       ACCESSION
                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                   581
                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                         161
                                                                                                                                                                                                                                                                                                                                  461
                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                   401
                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \vdash
                                                                                                                                                                                                                                              GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                            Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                   TCA
                                                                                                                                                                                                                                                                                                                                  GAATGCAGAGTGTCTCTGGGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                   TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TICAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGTGGCCTGAACCTGTATTCGGGCGCCCTGGTCCCCTGGCTTCCCCAGAGAAGTATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
AL022666

$782747 Beddington n

clone 528-1H14 5', mF

AL022666

AL022666.1 GI:664525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       High
                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              quality sequence stop: Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /Ob_xref" taxon:10090"
/db_xref" taxon:10090"
/clone="IMAGE:4159415"
/clone=lib="NCI_CGAP_Li9"
/lab_host="BHIOB (71 phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: |
/note="Organ: liver; Vector: pCMV-SPORT6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Mus |
/strain="FVB/N"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.17e-74
808.00
88.40%
80.11%
21.50%
                                          mRNA
                                                              mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-752)
                                        sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         musculus"
                                                                                   548
                                                              dissected
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                               ďď
                                                              endoderm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         752
145
15
21
0
                                                                               linear
                                                              Mus
                                                              musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Site_1: NotI;
                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oligo
                                                                                 29-DEC-1999
                                                              CDNA
                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                                                                                                        140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                520
                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
```

```
밁
                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                Вр
                                                                         QΥ
                                                                                                                                    QУ
                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
              Š
                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                        -874-198-2 (1-686) x AL022666
                                              305
                                                                                                         365
                                                                                                                                        562
                                                                                                                                                                      425
                                                                                                                                                                                                                                   485
                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                         502 LeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGlu 521
                                                                                                                                                                                                                                MetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeu 581
                                                                                                                                                                                                                                                                                           AlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAla
                                                                                                                                                                    GTCACAATCAACAGAAGCATCATGCCTGTTTGCCTACCGCGAAAAGAAGCTGCATCCTTA 366
                                                                                                                                                                                      Scores:
TyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeu
                                              GCTAGAAACCTAATGTTTGTGGACATACCAATTGCTGACCACCAAAAAATGTACCACCGTG
                                                                                                         ATGAGAACAGACTTCACTGGAACTGTGGCTGGCTGGGGGTTAACCCAGAAGGGGCTTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cloned unidirectionally.
Dissected endoderm 7.5 days.
Average insert size: 1.2 kb (range:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: pavner@pasteur.fr
clone available from Ressourcenzentrum, Heubnerweg
Berlin, Germany. Web site http://www.rzpd.de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EEC Mouse Transcript Mapping
Genoscope - CNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 548)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            High quality sequence only submitted.
Vector: pSportl; site_1: NotI; site_2: SalI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Wiles, M., Lehrach, H. and Avner, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolation of novel tissue-specific genes from cD representing the individual tissue constituents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          {\tt Harrison, S.M.}, Dunwoodie, S.L., Arkell, R.M., Lehrach, H. and {\tt Beddington, R.S.}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: CCGGTCCGGAATTCCCGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95401865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Development 121 (8), 2479-2489 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mouse embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rue Gaston Cremieux, 91000 Evry, France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Vector: pSport1; Site_1: Not1; Site_2: Sal1; Cloned
unidirectionally.- High quality sequence only submitted.-
Average insert size: 1.2 kb (range: 0.2 - 2.kb)"
142 c 117 g 156 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Mus musculus"
/strain="C57BL/6 x DBA"
/db_xref="taxon:10090"
/clone="528-1H14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="Beddington mouse dissected
/tissue_type="dissected endoderm"
/dev_stage="7.5 dpc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                      1.67e-72
785.50
87.08%
80.90%
20.90%
                                                                                                                                                                                                                                                                                                                                                          (1-548)
                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.2 -
                                                                                                                                                                                                                                                                                                                                                                                      548
144
11
22
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.kb)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        endoderm"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the gastrulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               libraries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D-14059
                                                                                                                                                                                                                                                                                             486
                 621
                                                                           601
                                                                                                                                                                                                   561
                                                                                                         306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
AI529228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83
```

```
188 GAGACTGGTGGCAAGGACAGCTGCAGAGGTGACAGTGGGGGGGCATTAGTGTTTCTAGAT 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        245 TATGAAAAG----CTCTATCCAGGAGTAAGAGTAAGCGCTAACATGCTCTGTGCTGGCTTA 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATGAGACACAGCGATGGTTTGTGGGAGGAATAGTTTCCTGGGGGTTCCATTAATTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCAGACCAGTATGGGGTCTACACAAAAGTCATCAACTATATTCCCTGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A1529228 586 bp mRNA linear EST 18-MAR-ui61d09.y1 Sugano mouse liver mlia Mus musculus cDNA clone IMAGE:1886897 5' similar to TR:000187 000187 MASP-2 PROTEIN. ;,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Underwood,K., Steptoe,M., Theising,B., Allen,M., Bowers,Y.,B., Swaller,T., Gibbons,M., Pape,D., Harvey,N., Schurk,R.,E., Kohn,S., Shin,T., Jackson,Y., Cardenas,M., McCann,R., Waterston,R. and Wilson,R.
Waterston,R. and Wilson,R.
Waterston,R. and Wilson,R.
Waterston,R. and Wilson,R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Marra M/WashU-NCI Mouse EST Project 1999
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: mouseest@watson.wustl.edu
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Marra, M., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Possible reversed clone: similarity Seq primer: custom primer used High quality sequence stop: 501.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGI:971221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AI529228.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 586)
125
                                                                             /IBD_HOSE* DIALUM
//NOTES* OFGRANT LIVER: Vector: pME18S-FL3; Site_1: DraIII
//NOTES* OFGRANT LIVER: Vector: pME18S-FL3; Site_1: DraIII
(CACTGTGTG); Site_2: DraIII (CACCATGTG); 1st strand cDNA
was primed with an oligo(dT) primer
[ATGTGGCCTTTTTTTTTTTTTTTTTTTTTT]; double-stranded cDNA was
ligated to a DraIII adaptor [TGTTGGCCTACTGG], digested
and cloned into distinct DraIII sites of the pME18S-FL3
vector (5' site CACTGTGTG, 3' site CACCATGTG). XhoI should
be used to isolate the cDNA insert. Size selection was
performed to exclude fragments <1.5kb. Library
constructed by Dr. Sumio Sugano (University of Tokyo
Institute of Medical Science). Custom primers for
Ø
   primer CGACCTGCAGCTCGAGCACA.
a 167 c 155 g 137 t
                                                            Institute of Medical Science). Custom primers for
sequencing: 5' end primer CTTCTGCTCTAAAAGCTGCG and 3' end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="C57BL"
/db_xref="taxon:10090"
/clone="IMAGE:1886897"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="Sugano mouse liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:4443363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               wrong strand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mlia"
   2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bowers,Y.,
Schurk,R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contact the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST 18-MAR-1999
                                                                                                                                                                                                                              XhoI should
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Person
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nus
```

```
RESULT 16
AA237253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best L
Query
                                                                                                                                              ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                               д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
          COMMENT
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                           REFERENCE
                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686) x AT529228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                    TITLE
JOURNAL
                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match:
                                                                                                                                                                                                                                                    584
                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                     464
                                                                                                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                                                              404
                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                      344
                                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ı
                                                                                                                                                                                                                                                                                          GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                     SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
|||||||
| TCAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                    TCA
                                                                                                                                                                                                                                                                                                                                                                             TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCATCAAGATCGATCCTGGACACTGACTGCACCCCCTGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
                                                                                                                                                                                                                                                                        Ser 181
                                                                                                                                                                                                                                                                                                                                    GAATGCAGAGTGTCTCTGNGAGACTCAGTCCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGTGGCCTGAACCTGTATTCGGGCGCCTGGTGTCCCCTGGCTTCCCAGAGAAGTATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity:
                                                                                                                                                                         AA237253 546 bp
mx18a07.rl Soares mouse NML Mus
similar to SW:CRAR_MOUSE P98064
RA-REACTIVE FACTOR PRECURSOR;
Unpublished (1996)
Contact: Marra M/Mouse EST Project
WashU-HHMI Mouse EST Project
                                               1 (bases 1 to 546)
Marra, M., Hiller, L., Allen, M., Bowles, M., Dietrich, N., Dubn Geisel, S., Kucaba, T., Lacy, M., Le, M., Martin, J., Morris, M., Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B. Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and
                                                                                                                          Mus
                           Waterston, R.
The WashU-HHMI Mouse EST Project
                                                                                                                                                       AA237253
AA237253.1
                                                                                                              Eukaryota;
                                                                                                     Mammalia; Eutheria;
                                                                                                                                    house mouse
                                                                                                                                                                                                                                                    586
                                                                                                                         musculus
                                                                                                   Metazoa; Chordata; Craniata; Vertebrata;
Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.48e-71
777.00
86.19%
77.90%
20.68%
9
                                                                                                                                                         GI:1861274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-586)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative:
                                                                                                                                                                                    mRNA linear ES musculus cDNA clone IN COMPLEMENT-ACTIVATING
                                                                                                                                                                            mRNA
                                                                                                                                                                           sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              586
141
15
25
0
                                                                                                    Muridae;
                                                                                                                                                                                    EST 03-MAR-1997

• IMAGE:680532 5'

ING COMPONENT OF
                                                                                                              Euteleostomi;
                                                                                                    Murinae;
                                                                                Dubuque
                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                           583
                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                    523
                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                             463
                                                                                                                                                                                                                                                                                                                                                                                                140
                                                                                                                                                                                                                                                                                                                                                                                                                     403
                                                                                                                                                                                                                                                                                                                                                                                                                                                               343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                    Mus
                           δÃ
                                                                  δÃ
                                                                                                          Qy
                                                                                                                                                     δÃ
                                                                                                                                                                                            δõ
                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                              Qy
                                                В
                                                                                         당
                                                                                                                                  밁
                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                   ₽:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                     Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                  247
                                                                                                                                                                                                                                                                                                                                                                                                                     No . :
        427
                                                 367
                                                                    121
                                                                                         307
                                                                                                             101
                                                                                                                                                                           187
                                                                                                                                                                                                                    127
                            141
                                                                                                                                                      81
                                                                                                                                                                                              61
                                                                                                                                                                                                                                                           67
                                                                                                                                                                                                                                       41
                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                               Scores:
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
MetArgLeuLeuThrLeuLeuGlyLeuLeuCySGlySerValAlaThrProLeuGlyPro
                                                                                                   SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                           PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                 CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
                                                                                                                                    TCAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                TTCACCCACTTTGACCTGGAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4444 Forest Park Parkway, Box 8501, St. Tel: 314 286 1800
Fax: 314 286 1810
Email: mouseest@watson.wustl.edu
This clone is available royalty-free the This Consortium (info@image.llnl.gov)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Possible reversed clone:
Seq primer: -28m13 rev2 I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Washington University School of MedicineP
                                                                                                                                                                                                                                                                                                                                                              (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer: -28m13 rev2 ET from
quality sequence stop: 439.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        constructed and normalized by Bonaldo."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="Soares mouse
/tissue_type="Liver"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
/db_xref="taxon:10090"
/clone="IMAGE:680532"
                                                                                                                                                                                                                                                                                                                                                                                   2.14e-71
775.00
86.67%
78.33%
20.62%
9
                                                                                                                                                                                                                                                                                                                                                             x AA237253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                              (1-546)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 similarity on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                              Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NML"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       through LLNL;
v) for further :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 wrong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Louis,
                                                                                                                                                                                                                                                                                                                                                                                   141
15
15
24
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        further information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cor. Library
and M.Fatima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contact the
                      160
                                                                 140
                                                                                                            120
                                                                                                                                                          100
                                                                                                                                                                                                                                                                                           40
  486
                                            426
                                                                                         366
                                                                                                                                   306
                                                                                                                                                                                                    80
                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                      126
                                                                                                                                                                              246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3′];
```

```
RESULT 17
BM780799
                                                                                               Ş
                                                                                                                                  DЪ
                                                                                                                                                                  Ω
                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                             δÃ
                                                                Дb
                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                       US-09-874-198-2 (1-686) x BM780799 (1-620)
B
                                                                                                                                                                                                                                                                                                        DB:
                                                                                                                                                                                                                                                                                                                       Query
                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Locus
                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                        ent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              URNAL
NT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                       Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   487
 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  161
                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17
                                 91
                                                                                                 71
                                                                                                                                    8
                                                                                                                                                                   51
                                                                                                                                                                                                                                     31
                                                                                   LeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCys
                                                                                                                                                     AlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHis
                                                                                                                                                                                                                      AlaSerProGlyPheProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
               GlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGly 110
GGCTGGGAGAGCACAGACACGAGCTGGCGCCCCGGCAACGACACCTTCTACTCGCCGGGC
                                                                  CTCTGCGAGTACGACTTTGTCAAGCTGAGCTCAGGAACCAAGGTGCTGGCCACACTGTGC
                                                                                                                                    GCACCCCCGGCTACCGCCTGCGCCTCTACTTCACCCACTTCCACCTGGAGCTCTCCTAC
                                                                                                                                                                                                      GCATCCCCGGGCTTCCCCGGGGAGTACGCCAACAACCAGGAGCGGCACTGGACGCTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCGGCTACTATTGCTCCTGAAGACCGGGCTAGGTTCTCCACCAGAACAAGCACACGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Laboratory for Genomics and Bioinformatics The University of Georgia, Department of Plant Plant Sciences Building, Rm. 2502, Athens, GA 3 Tel: 706 542 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vandenplas,M., Cordonnier-Pratt,M.-M., Sudman,M., Gingle,A., Moore,J. and Pratt,L.H.
An EST database from equine (Equus caballus) liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Equus caballus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequences have been trimmed to exclude PolyA, vector and regions below Phred quality 16. The threshold for high quality sequence is 20. Three-prime sequences, which are obtained with PolyTMix or T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tel: 706 542 1860 Fax: 706 583 0210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (2002)
Contact: Cordonnier-Pratt MM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APL1_9_C07.g1_A005 Liver
BM780799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequencing primer, are presented
Seq primer: T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Perissodactyla;
1 (bases 1 to 620)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: mmpratt@uga.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  вм780799.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  horse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      quality sequence start: 18 quality sequence stop: 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Equus caballus"
/db_xref="taxon:9796"
/clome_lib="Liver (APPL)"
/clome_lib="Liver (APPL)"
/note="Organ: Acute phase liver; Vector: pBluescript SK(-)
from Lambda ZapII; Site_1: XhoI; Site_2: EccRI; The
library was made from poly-A RNA in the cloning vector
lambda ZApII. Clones to be sequenced were prepared by mass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          excision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                        1.85e-70
767.00
93.38%
90.73%
20.41%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:19129031
                                                                                                                                                                                                                                                                                                                                                                                                                                                          238 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                      161 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               620 bp
(APL1)
                                                                                                                                                                                                                                                                                                                      Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            97 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Equus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            as the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NA linear
caballus cD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              reverse
                                                                                                                                                                                                                                                                                                        620
137
4
10
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cant Biology
GA 30602-7271,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                     70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                  187
                                                                                                 90
                                                                                                                                    127
                                                                                                                                                                                                    67
                                                                                                                                                                                                                                     50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    546
247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is
```

```
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 18
BG921224/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
 US-09-874-198-2 (1-686)
                                                  Query Match:
                                                                  Percent Similarity:
Best Local Similari
                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                    Score:
                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                      Pred.
                                                                                                                                    Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                      No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGly 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GluAlaPheTyrAlaAlaGluAspIleAspGluCysGlnValAlaProGlyGluAlaPro 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCAGCCTGGACGTCACCTTCCACTCCGACTACTCCAACGAGAAGCCGTTCACAGGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysProPheThrGlyPhe 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGCCTTCTACGCAGCAGAGGACATCGACGAGTGCCAGGTGCCCCCAGGAGAGGCGCCC
                                                                   Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey Green M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG921224 E
602825741F1 NCI_CGAP_Mam6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC Clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria;
1 (bases 1 to 868)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BG921224.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BG921224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                        High quality sequence stop: Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         http://image.llnl.gov
Plate: LLAM10915 row: b column: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             house mouse
                                                                                                                                                                                        227
                                                                                                                                                                                        b
                                                                                                                                                                                    /note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: SalI; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies. Investigator providing samples: Jeffrey Green, M.D., NIH"

197 c 192 g 252 t
                                                                                                                                                                                                                                                                    /clone_lib="NCI_CGAP_Mam6"
/sex="female, virgin"
/tissue_type="infiltrating ductal carcinoma"
/dev_stage="5 months"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:10090"
/clone="IMAGE:4954283"
                                                                                                                                                                                                                                                                                                                                                                                         /organism="Mus musculus"
/strain="FVB/N"
                                 3.63e-70
766.50
83.92%
75.38%
20.40%
x BG921224 (1-868)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:14301700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 868 bp mkwa ----
5 Mus musculus cDNA clone
                                                  Conservative: Mismatches: Indels:
                                  Gaps:
                                                                                                   Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene Collection (MGC)
                                  868
150
17
29
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IMAGE: 4954283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST 05-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus
```

δõ

GlnLysHisAspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerPro

В

Š В Ş B

S 밁 Q

```
RESULT 19
AA238260
                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                             CCESSION
                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                       RDS
E
E
GANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGGAGTAAGAGTAAGCGCTAACATGCTCTGTGCTGGCTTAGAGACTGGTGGCAAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAsp 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACTGTGGCTGGCGTTAACCCAGAAGGGCTTCTTGCTAGAAACCTAATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H1STyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTGTGGGAGGAATAGTTTCCTGGGGTTCCATTAATTGTGGGGCGGCAGACCAGTATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheValGlyGlyI1eValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGly 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCTGCAGAGGTGACAGTGGGGGGGCATTAGTGTTTCTAGATAATGAGACACAGCGATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrp 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTTTTGACAATGATAAGCATTGATTAAACTCAAGAACAAAGTCACAATCAACGGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAT---ACATCAAGCTGGCCCGAGGA-ATCTTTAGACATGAAGGCTACACTCACGGTGCT
                                                                                                                                                                                      Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 552)
Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T.
Gelsel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M.,
Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B.,
Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and
Waterston,R.
The WashU-HHMI Mouse EST Project
                                                                                  Unpublished (1996)
Contact: Marra W/Mouse EST Project
WashU-HMI Mouse EST Project
Washington University School of MedicineP
4444 Forest Park Parkway, Box 8501, St. Lc
Tel: 314 286 1800
Fax: 314 286 1810
Email: mouseest@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                    AA238250 52 bp
mx15a01.rl Soares mouse NML Mus
similar to SW:CRAR HUMAN P48740
RA-REACTIVE FACTOR PRECURSOR ;
 Possible reversed clone: similarity on wrong Seq primer: -28ml3 rev2 ET from Amersham High quality sequence stop: 423.
                                                                     Email: mouseest@watson.wustl.edu
This clone is available royalty-free
                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                            AA238260
AA238260.1 GI:1862301
                                            MGI:419936
                                                       IMAGE Consortium (info@image.llnl.gov)
                                                                                                                                                                                                                                                                                                                                    house mouse
                                                                                                                                                                                                                                                                                                                                                                                                 mRNA linear EST 03-MAR-1997
musculus cDNA clone IMAGE:680232 5'
COMPLEMENT-ACTIVATING COMPONENT OF
                                                                                                                                                                                                                                                                                                                                                                                     mRNA sequence.
                                                                    through LLNL ;
                                                        tor
                                                                                                                           Louis,
                                                        further information
                                                                                                                           ₹
Ö
                                                                                                                           63108
                                                                     contact the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        314
                                                                  RESULT 20
BQ644570
                                                                                                                                                                                        20
                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                             밁
                                                                                                                                                                В
                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                 Вр
                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
  VERSION
               ACCESSION
                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                            511
                                                                                                                                     161
                                                                                                                                                                451
                                                                                                                                                                                           141
                                                                                                                                                                                                                      391
                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                           331
                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                 271
                                                                                                                                                                                                                                                                                                                                                                                     211
                                                                                                                                                                                                                                                                                                                                                                                                                                          151
                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31
                                                                                                         Scores:
BQ644570 939 k
AGENCOURT_8490607 NIH_MGC_100
5', mRNA sequence.
BQ644570
BQ644570.1 GI:21768742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Mus musculus"
/db_xref="taxon:10090"
/clone="IMAGE:680232"
/clone_lib="Soares mouse !
/tissue_type="Liver"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.37e-69
758.00
86.78%
79.31%
20.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      x AA238260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (1-552)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                       bp
0 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NML.
                                       sapiens
                                                       mRNA
```

20

д

δ Вþ ð В δÃ

В

```
GAATGCAGAGTGTCTCTGGGAGACTCACGTCCTTGTGACCATTATTGCCACAACTACTTG
                                                                                                                                                                                                                        TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp|
                                                                                                                                                                                                                                                                                      SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                    PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                        GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                        TACTCCAATGAGAAGCCGTTCACAGGGTTTGAGGCCCTTCTATGCAGCGGAGGATGTGGAT
                                                                                                                                                                                                                                                                       CCTGGCAATGACACCTTCTACTCACTGGGTCCCAGCCTAAAGGTCACCTTCCACTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                 TTCACCCACTTTGACCTGGAACTCTCTTACCGCTGCGAGTATGACTTTGTCAAGTTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCATCAAGATCGATCCTGGACACTGACTGCACCCCCTGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGAGGCTACTCATCTTCCTGGGTCTGCTGTGGAGTTTGGTGGCCACACTTCTGGGTTCA
                                                                                                                                                                                                                                                                                                                                      TCAGGGACCAAGGTGCTGGCCACACTGTGTGGGCAGGAGAGTACAGACACTGAGCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              constructed and normalized by Bento Soares
Bonaldo."
161 c 149 g 130 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138
138
23
0
 cDNA clone
                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
EST 15-JUL-2002
ne IMAGE:6293770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      M.Fatima
                                                                                                                                                                                                                                       140
                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                    330
                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                            510
                                                                                                                                                                                                                                                                       390
                                                                                                                                                                                                                                                                                                                                                                                                   270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
```

```
DЬ
                                                                                                    Q
                                                                                                                                          DЬ
                                                                                                                                                                         QΥ
                                                                                                                                                                                                           망
                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                              QY
                                                                                                                                                                                                                                                                                                                   δÃ
 밁
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                         9-874-198-2 (1-686) x BQ644570 (1-939)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO : :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match:
 320
                                    101
                                                                       260
                                                                                                                                                                                                               140
                                                                                                                                            200
                                                                                                       81
                                                                                                                                                                            61
                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                    08
                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                  ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120
                                                                                                                                                          PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                       SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla 100
                                                                                                                                                                                                                              AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                     TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGAGAGCACAGACACGGAGCGGGCC
                                                                                                                                          TTCACCCACTTCGACCTGGAGCTCTCCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                                                                                                                                                                             AATGACCAGGAGCGCGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: CGAP (Stanford)
Tissue Procurement: CGAP (Stanford)
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 http://image.llnl.gov
Plate: LLCM2497 row: f column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence stop: 551.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 939)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Library.
a 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="hepatocellular carcinoma, cell line"
/lab_host="hell0B (phage_resistant)"
/note="organ: liver; Vector: pOTB7; Site_1: XhoI; Site_2:
ECORI; cDNA made by oligo-dT priming. Directionally cloned
into EcoRI/XhoI sites using the following 5' adaptor:
GCACGAA(G). Size-selected >500bp for average insert size
1.8kb. Library constructed by Ling Hong in the laboratory
of Gerald M. Rubin (University of California, Berkeley)
using ZAP-cDNA synthesis kit (Stratagene) and Superscript
II RT (Life Technologies). Note: this is a NIH_MGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6293770"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="NIH_MGC_100"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.06e-67
741.00
67.76%
65.71%
19.72%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   273 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          939
161
5
25
54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 others
                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                   40
                                                                     319
                                                                                                                                          259
                                                                                                                                                                           80
                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                 139
 379
                                                                                                                                                                                                                                                                                                                                                      79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ьe
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 21
BQ653181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysAspHisHis----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGGTGAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTAATTCCAGCACCT 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluTyrProArgPro 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSer-----SerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGCTGAGTGCCAACTCTGAGCC------AGGGATCTGAGGACAGCATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGACATCCACCAATGCAAAGACCAAAACAGCCGTGACCTCCATTCACAT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGCCAGGCAGCCCTGCCTTCAGTTTCCCCACCTTTCCCCAGGGCAGGGGAGAGGCCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs r@mail.nih.gov
Tissue Procurement: CGAP (Stanford)
cDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1035)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                       found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: L/LW2442 row: g column: 16 High quality sequence stop: 510.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ653181.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------CAAGTG---ACGCAGGGGACTGGCCGGGCGCAGCAGCTCACGCCT
                                                                            /tissue_type="hepatocellular carcinoma, cell line" /lab_host="DH10B (phage-resistant)" /note="Organ: liver; vector: posts; Site_1: XhoI; Site_2: EcoRI; cDNA made by oligo-dT priming. Directionally cloned into EcoRI/XhoI sites using the following 5 adaptor: GCCACGAG(G). Size-selected >500bp for average insert size
1.8kb. Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-ODNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC
                                                                                                                                                                                                                          /db_xref="taxon:9606"
/clone="IMAGE:6269223"
                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                     /clone_lib="NIH_MGC_100"
                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp
Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA linear EST 15-JUL-2002 sapiens cDNA clone IMAGE:6269223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----CysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----GlyGluAlaProThr 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -CysGlnVal 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         700
                                                                                                                                                                                                                                                                                                                                                                                                           be
```

be

```
RESULT 22
BQ648641
LOCUS
                                                             KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                      ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -60-Sn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE
                                                                                                                     ACCESSION
                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
                                                                                               VERSION
                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                                                                                                                                                                                                    586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           874-198-2 (1-686) x BQ653181 (1-1035)
                                                                                                                                                                                                                                                                                                                             526
                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                         467
                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                AACAGCCGGGACCTCCATTTCCATGGGCTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                            sSerAlaLeuCysSerGly---GlnValPheThrGlnArgSerGlyGluLeuSerSerPr 199
|:::||| ||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAsp-IleAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                     sThrTyrSerIleSerLeuGluGluGlyPheSer
                                                                                                                                                                                                                                                                                                                           CACCTTTCCCAGGGCAGGGGAGAGGCCTCTGGCCTGACATCCACCAATGCAAAGACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              p {\tt GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLe}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGGAGAGCACAGACACGGAGCGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                             oGluTyrProArgPro-----
                                                                                                                                                                                                                                                                                                                                                                                                   CGCAGCTGGCTGGGGGGTAACTCTGTCTTAGGCCAGGC-AGCCCTGCCTTCAGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGGTGAGCCA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATGACCAGGAGCGGCGCTGGACCCTGACTGCACCCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGTGGCCTGAACCTGTGTTCGGGCGCCTTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCCTCGGTGGCCACCCCCTTGGGCCCG
                                                                           AGENCOURT_8299192 NIH_MCC_100
5', mRNA sequence.
BQ648641
BQ648641.1 GI:21772813
EST.
 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                          BQ648641
                                         Homo sapiens
                                                               human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.01e-0
738.00
70.26%
67.67%
19.64%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          o
 Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ڡ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels:
Gaps:
                                                                                                                                                                      ď
Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          172
                                                                                                                                                                                                                                                  619
                                                                                                                                                                                                                                                                                       222
                                                                                                                                                    sapiens
                                                                                                                                                                        mRNA
                                                                                                                                                                                                                                                                                                                                                               -TyrProLysLeuSerSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1035
157
6
28
42
 Hominidae;
                                                                                                                                                    linear EST 15-JUL-2002 cDNA clone IMAGE:6271539
                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                               Ş
                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                   Ş
                                                                                           밁
                                                                                                                                                                    멂
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2 (1-686) x BQ648641 (1-913)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                   380
                                                       121
                                                                                             320
                                                                                                                               101
                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                      260
                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                   08
                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
Tissue Procurement: CGAP (Stanford)
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2448 row: h column: 04
High quality sequence stop: 549.
location/Qualifiers
                                                                                         PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                           AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                     LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                 TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGGTGAGCCA
                                   TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAsp-IleAs
                                                                                                                                                                    TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGGAGAGCACAGACACGGAGCGGGCC
                                                                                                                                                                                        SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                            TTCACCCACTTCGACCTGGAGCTCTCCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                                                                                                                                                                                                                                                                                       AATGACCAGGAGCGGCTGGACCCTGACTGCACCCCGGCTACCGCCTGCGCCTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                 AAGTGGCCTGAACCTGTGTTCGGGCGCCCTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 913)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6271539"
/clone_lib="NIH_MGC_100"
/tissue_type="hepatocellular carcinoma, cell line"
/tissue_type="hepatocellular carcinoma, cell line"
/tissue_type="hepatocellular carcinoma, cell line"
/lab_host="DH108 (phage-resistant)"
/lab_host="DH108 (phage-resistant)"
/lab_host="liver; Vector: pOTB7; Site_1: XhoI; Site_2:
/note="Organ: liver; Vector: pOTB7; Site_1: XhoI; Site_2:
/note="Organ: liver; Vector: pOTB7; Site_1: Adaptor:
/forair_corpan liver; Vector: pOTB7; Site_1: Adaptor:
/forair_corpan liver; Vector: pOTB7; Site_1: XhoI; Site_2:
/forair_corpan liver; Vector: p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6.63e-67
736.00
73.15%
71.76%
19.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  255 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         913
155
3
34
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Collection
                                                                                                                               120
                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                 139
                                                                                                                                                                                                                                                                                                                                                                                                                                      40
                                                                                           379
                                                                                                                                                                    319
                                                                                                                                                                                                                                            259
                                                                                                                                                                                                                                                                                 90
                                                                                                                                                                                                                                                                                                                     199
                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79
```

```
RESULT 23
BQ648719
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                              Query Match:
                                                              Percent Similarity:
Best Local Similarity:
                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                               Score:
                                                                                                              Pred. No.:
                                                                                                                             Alignment
                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NOTTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SION
                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               921 bp
N AGENCOURT 8188306 NIH_MGC_100 H
5', mRNA sequence
B0648719
B0648719.1 GI:21772891
EST.
                                                                                                                             Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCTTTCCCAGGGCAGGGGNGAGAGGCCTCTGGCCTGACATCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sSerAlaLeuCysSerGly---GlnValPheThrGlnArgSerGlyGluLeuSerSerPr 199
|:::||| ||| ||| ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             uGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         oGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCAGCTGGCTGTGGGGGTAACTCTGTCTTAGGCCAGGC-AGCCCTGCCTTCAGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLe
                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: Ggapbs=r@mail.nih.gov
Tissue Procurement: CGAP (Stenford)
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2479 row: e column: 08
High quality sequence stop: 609.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria;
1 (bases 1 to 921)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           172
                                                                                                                                                                                                    /note="Organ: liver; Vector: pOTB'; Site_1: xhoI; Site_2: ECORI; CDNA made by oligo-dT priming Directionally cloned into EcoRI; XhoI sites using the following 5' adaptor: GGCACGAC(G). Size-selected >500bp for average insert size 1.8kb. Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC
                                                                                                                                                                                          Library
                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:6283375"
/clone_lib="NIH_MGC_100"
                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                  /tissue_type="hepatocellular carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
x BQ648719
                               6.73e-67
736.00
73.91%
71.98%
19.58%
                                                                                                                                                                           O
                                                                                                                                                                          285 g
 (1-921)
                                              Mismatches:
Indels:
                               Gaps:
                                                                            Conservative:
                                                                                          Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalian
                                                                                                                                                                           164 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA linear EST 15-JUL-2002 sapiens cDNA clone IMAGE:6283375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----AACATCTCAGTCTG
                             921
149
4
19
35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bе
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 24
BQ646367
               FEATURES
                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                 AUTHORS
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                               518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCy 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAsp-IleAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uTyrProArgProTyrPro 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGAG - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          p \verb|GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLe|\\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGGTGAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGTGGCCTGAACCTGTGTTCGGGCGCCTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCTCGGTGGCCACCCCCTTGGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTTTCCCCACCTTTCCCA 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCAGCTGGCTGTGGGGGTAACTCTGTCTTA---
                                                                                                                                                                                                                                                                                                                                                    AGENCOURT_8488545 NIH_MGC_100 Homo sapiens cDNA clone IMAGE:6296149 5', mRNA sequence.
                                                      CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1. (bases 1 to 975)
                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: CGAP (Stanford)
                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                   Unpublished (1999)
                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                         BQ646367.1
                                          Plate: LLCM2503 row: i column:
                                                                                                                                    cDNA Library Preparation:
              quality sequence stop: 504.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----GGGTCCTGC---
                                                                                                                                                                                                                                                                                                                                       GI:21770539
                                                                                                                                     Rubin Laboratory
                                                                                                                                                                                                                  Mammalian
                                            14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GGCCAGGCAGCCCTGCCTTC
                                                                                                                       Consortium (LLNL)
                                                                                                                                                                                                                  Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACATCTCAGTCTG
                                                                                                                                                                                                                Collection (MGC)
                                                                                          can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                          be
```

3

```
DASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-874-198-2 (1-686) x BQ646367
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĕ
                              518
                                                                                                                                                                                                                               440
                                                               200
                                                                                               467
                                                                                                                                                                                              160
                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                              320
                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                                                                          18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAsp-IleAs 140
                                                                                                                                                                                                                                                                                                                                                                            ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120
                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                           CGCAGCTGGCTGTGGGGGGTAACTCTGTCTTA.
                                                                                                                                                                                         uGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCy
                                                                                                                                                                                                                                                        pGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLe 160
                                                                                                                                                                                                                                                                                          TACTCCAACGAGAAGCCGTTCACGGGGTTCGAGGCCTTCTATGCAGCCGAGGGTGAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCACCCACTTCGACCTGGAGCTCTCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                             uTyrProArgProTyrPro
                                                                                                                          sSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGl 200
                                                                                                                                                                                                                                                                                                                                                         CCTGGCAAGGACACTTTCTACTCGCTGGGCTCCAGCCTGGACATTACCTTCCGCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                            TCGGGGGCCAAGGTGCTGGCCACGCTGTGCGGGCAGAGAGCACACAGACACGGAGCGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        198
                                                                                                                                                              ----GGGTCCTGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="hepatocellular carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="Organ: liver; Vector: pomps; Site_1: xhoï; Site_2:
EcoRI; cDNA made by oligo-dT priming. Directionally cloned
into EcoRI/Xhoï sites using the following 5' adaptor:
GCCACGAG(G). Size-selected >500bp for average insert size
1.8kb. Library constructed by Ling Hong in the laboratory
of Gerald M. Rubin (University of California, Berkeley)
using ZAP-cDNA synthesis kit (Stratagene) and Superscript
ILRT (Life Technologies). Note: this is a NIH_MGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6296149"
/clone_lib="NIH_MGC_100"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Library.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7.39e-67
736.00
73.91%
71.98%
19.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1-975)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      171 t
                                                                                                                                                            -----AACATCTCAGTCTG
                                                                                             -GGCCAGGCAGCCCTGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     975
149
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19
35
                                                                                           517
                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40
                                                                                                                                                            466
                                                                                                                                                                                                                                                                                                                                                           379
                                                                                                                                                                                                                                                                                                                                                                                                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
```

Š

В δÔ 밁 Ş ₽ οy Вþ δĀ

밁 δÃ Š

В

δõ

밁 οy Db δ

В

Query

DB:

```
δõ
                                                               Qy
                                                                                                    Вb
                                                                                                                                  δÃ
                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                   망
                                                                                                                                                                        B
                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                            Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                             Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x BQ650766 (1-796)
                                                                                                                                                                                                                                                                                                                                                                              Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                   212
                                                                                                                                                                                                                                                                                                                                                                                                                               No. :
                                                                                                      152
 81
                                                                   61
                                                                                                                                    41
                                                                                                                                                                        92
                                                                                                                                                                                      21 LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                           32
                               MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                      AAGTGGCCTGAACCTGTGTTCGGGCGCCTGGCATCCCCCGGCTTTCCAGGGGAGTATGCC
                                                                                                                                                                                                                                         ATGAGGCTGCTGACCCTCCTGGGCCTTCTGTGTGGCTCGGTGGCCACCCCCTTGGGCCCG
                                                                                                                                                                                                                                                                                                                                                                            Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: CGAP (Stanford)
CDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   796 l
AGENCOURT_8347134 NIH_MGC_100
5', mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BQ650766.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5', mRNA sequence
BQ650766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 796)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      e: LLCM2480 row: o column: quality sequence stop: 505.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /Glone=TimAGE:6284012"
/clone_Tibe"NMH_MGC_100"
/tissue_type="hepatocellular carcinoma, cell line"
/tissue_type="hepatocellular carcinoma, cell line"
/lab_host="0H10B (phage resistant)"
/note="Organ: liver; Vector: pOTB7; Site_1: XhoI; Site_2:
EcoRI; cDNA made by oligo-dT priming. Directionally cloned
into EcoRIXNhoI sites using the following 5' adaptor:
GGCAGGAG(G). Size-selected >500bp for average insert size
1.8kb. Library constructed by Ling Hong in the laboratory
of Gerald M. Rubin (University of California, Berkeley)
using ZAP-cDNA synthesis kit (Stratagene) and Superscript
II RT (Life Technologies). Note: this is a NIH_MGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                          6.76e-67
735.00
100.00%
100.00%
19.56%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               243 g
                                                                                                                                                                                                                                                                                                                                        Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 144 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                        796
137
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST 15-JUL-2002
ne IMAGE:6284012
                                                                 80
                                                                                                                                                                                                      40
                                                                                                                                    60
                                 271
                                                                                                    211
                                                                                                                                                                      15]
                                                                                                                                                                                                                                       91
                                                                                                                                                                                                                                                                         20
```

```
Title:
Perfect score:
Sequence:
                                                                      Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                          -MODEL=frame+_p2n.model -DEV=xlp
-Q=/Cgn2_l/USPT0_spool/US09874198/runat_22012003_085003_10992/app_query.fasta_1.839
-DB=Published_Applications_NA -QFMT=fastap -SUFFIX=p2n.rnpb -MINMATCH=0.1
-LOOPEL=0 -LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=75 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100
-THR_MIN=0 -ALIGN=25 -MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0
-MAXLEN=2000000000 -USER=US09874198_@CGN_1_1_36_@runat_22012003_085003_10992
-NCPU=6 -LCPU=3 -NO_XIDAY -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 75 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                    Score
    3758
3758
1412
1412
                                                                                                                                                                                     Published_Applications_NA:*

1: /cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*

2: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*

3: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*

4: /cgn2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*

5: /cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*

6: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*

7: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*

9: /cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

9: /cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

10: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

11: /cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*

12: /cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*

13: /cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*

14: /cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                  %
Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2
3758
1 MRLLTLLGLLCGSVATPLGP......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              January 23, 2003, 23:41:12 ; Search time 126 Seconds (without alignments) 2445.997 Million cell updates/sec
    100
100
37
37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396772 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.3 Compugen Ltd
                                                                     Length
    2475
2475
2493
2493
2555
                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    224632407
    10
10
12
 US-09-874-198-3
US-09-874-238-3
US-09-880-107-2256
US-10-044-090-613
                                                                     IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.5
0.5
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GVYTKVINYIPWIENIISDF
                                                                    Description
Sequence 3, Appli
Sequence 3, Appli
Sequence 2256, Ap
Sequence 613, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                            403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
403.55
40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | US-09-808-602-92 | US-10-044-090-17-2105 | US-09-808-107-2105 | US-09-925-301-182 | US-09-925-302-168 | US-09-925-301-31 | US-09-925-301-31 | US-09-925-301-31 | US-09-925-301-31 | US-09-925-301-31 | US-09-9278-697-168 | US-09-9278-697-168 | US-09-9278-697-170 | US-09-9278-737-330 | US-09-9278-737-330 | US-09-9278-737-330 | US-09-9297-737-330 | US-
```

Sequence 92. Appl Sequence 175. App Sequence 177. App Sequence 168. App Sequence 16. Appl Sequence 16. Appl Sequence 16. Appl Sequence 17. Appl Sequence 17. Appl Sequence 18. Appl Sequence 19. Appl Sequence 230. Appl S

```
Qy
                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                APPLICANT: JENSCHIUS, JENS CHY.
APPLICANT: Thiel, Steffen
TITLE OF INVENTION: WASP-2 COMPLEMENT-FIXING ENTITLE OF INVENTION: USES FOR IT
FILE REFERENCE: 09011-002002
CURRENT APPLICATION NUMBER: US/09/874,198
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR APPLICATION NUMBER: 09/054,218
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-04-03
NUMBER OF SEQ ID NOS: 8
PTWARE: FastSEQ for Windows Version 4.0
NGTH: 2475
        Ωy
                      Dβ
                                Qy
                                               Ъ
                                                                               DЬ
                                                                                        Qy
                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
US-09-874-198-3
                                                                                                                     Qy
                                                                                                                                      Вþ
                                                                                                                                                                               δÃ
                                                                                                                                                                                            Вр
                                                                                                                                                                                                          8
                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                         ; NAME/KEY: CDS
; LOCATION: (37)..
US-09-874-198-3
                                                                                                                                                                                                                                                    US-09-874-198-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09874198 Patent No. US20020082208A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                           .ignment
                                                                                                                                                                                                                                                                                                                                             ORGANISM: HOMO FEATURE:
                                                                                                                                                                                                                                                                                                      No.:
                       457
                                                   397
                                                                               337
                                                                                            101
        161
                                    141
                                                                121
                                                                                                           277
                                                                                                                                      217
                                                                                                                                                                  157
                                                                                                                        81
                                                                                                                                                    61
                                                                                                                                                                               41
                                                                                                                                                                                             97
                                                                                                                                                                                                          21
                                                                                                                                                                                                                        37
                     GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                             Scores
                                                                                                         PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                 TTCACCCACTTCGACCTGGAGCTCTCCCACCTCTGCGAGTACGACTTCGTCAAGCTGAGC
                                                                                                                                                                                                                                                     (1-686)
                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                 (2094)
                                                                                                                                                                                                                                                                  0
3758.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                    ×
                                                                                                                                                                                                                                                    US-09-874-198-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALIGNMENTS
                                                                                                                                                                                                                                                                         Mismatches:
Indels:
                                                                                                                                                                                                                                                                                       Conservative:
                                                                                                                                                                                                                                                     (1-2475)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENZYME,
                                                                                                                                                                                                                                                                 2475
686
0
0
0
                                   160
                                                                140
                                                                                           120
                                                                                                                                                                                            156
                       516
                                                  456
                                                                                                                                                    08
                                                                                                                                                                 216
                                                                                                                                                                               60
                                                                                                                                                                                                          40
        180
                                                                                                          336
                                                                                                                                      276
                                                                                                                                                                                                                        96
                                                                                                                                                                                                                                    20
           20
                                         QΥ
                                                                     QΥ
Вp
                             В
                                                        DЪ
                                                                                    рь
                                                                                                 δõ
                                                                                                                Ъ
                                                                                                                             Qy
                                                                                                                                            밁
                                                                                                                                                        Qy
                                                                                                                                                                       밁
                                                                                                                                                                                    Ωy
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                              ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                         1477
                                                                                    1417
                                                                                                                 1357
                                                                                                                                                                                                    1177
                                                                                                                                                                                                                               1117
                                                                                                                                                                                                                                                           1057
 1597
                                                                                                                                                                        1237
                                                                                                                                            1297
              521
                                                                      481
                                                                                                   461
                                                                                                                              441
                                                                                                                                                           421
                                                                                                                                                                                     401
                                                                                                                                                                                                                 381
                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                      997
                                                                                                                                                                                                                                                                                                    321
                                                                                                                                                                                                                                                                                                                   937
                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                              877
                                                                                                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                                                        817
                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                     757
                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                                                                                                                                                                                                                                                                                                                                                                                                                                               221
                                                                                                                                                                                                                                                                                                                                                                                                                                                              637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     517
ThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheILeHis
                                                                                                                CysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIle
                                                                                                                                                                                                                                                                                      LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                         PheSerValI1eLeuAspPheValGluSerPheAspValGluThrHisProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCCTGAAAAGACTATCACCTCATTATACACAAGCCTGGTCTGAAGCTGTTTTTATACAT
                                                                                                                                                                                                                               TGCAGCATTGTTGACTGTGGCCCTCCTGATGATCTACCCAGTGGCCGAGTGGAGTACATC
                                                                                                                                                                                                                                                                                                                                                                          AAGACATTGCCCCACAGGATTGAAACAAAAAGCAACACGGTGACCATCACCTTTGTCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCAGTGTCATTCTGGACTTTGTGGAGTCCTTCGATGTGGAGACACACCCTGAAACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCGGTTTCTACTGCTCCTGCCGCGCAGGCTACGTCCTGCACCGTAACAAGCGCACCTGC
```

1116

380

1056

936 320 996 340 260 816 280 876

300

696 240

756

636

200

220

360

1476

460 1416 480 1176 400 1236 420 1296

500 1536

520

4-198-2 (1-686) x US-09-874-238-3 (1-2475)  MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAl	Alignment Scores:  Pred. No.:  0 Length: 2475 Score: Score:  Percent Similarity: 100.00% Conservative: 0 Best Local Similarity: 100.00% Mismatches: 0 Ouery Match:  100.00% Indals: 0	TYPE: DNA CORANISM: Homo sapiens FEATURE: NAME/KEY: CDS LOCATION: (37)(2094) US-09-874-238-3	; PRIOR APPLICATION NUMBER: 09/054,218 IOR FILLING DATE: 1998-04-02 OR APPLICATION NUMBER: 60/042,678 OR FILLING DATE: 1997-04-03  SOFTWARE: FastSEQ for Windows Version 4.0  SEQ ID NO 3  LENGTH: 2475	GENERAL INFORMATION:  APPLICANT: Jensenius, Jens Chr.  APPLICANT: Thiel, Steffen  TITLE OF INVENTION: MASP-2 COMPLEMENT-FIXING ENZYME, AND  TITLE OF INVENTION: USES FOR IT  FILE REFERENCE: 09011-002003  CURRENT APPLICATION NUMBER: US/09/874,238  CURRENT FILING DATE: 2001-06-04	RESULT 2 US-09-874-238-3 ; Sequence 3, Application US/09874238 ; Patent No. US20020082209A1	Qy 681 ASRILEILESERASPPhe 686 Db 2077 AACATAATTAGTGATTTT 2094	661 GlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGlu 	AspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCys 660	621 LeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu 640 	Qy 601 AlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGly 620	Qy 581 LeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAla 600 	Qy 561 PheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPhe 580	Qy 541 LysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSer 560 
D	рь Оу	0 Db 0y	0	Qy Qy Db	Qy Db	Оу	Оу	Db Qy	Db Qy	Оу	Qy	Db Qy	Qy
1	37 CCTTATCCGATGGCGCCACCTAATGGCCACGTTTCACCTGTGCAAGCCAAATACATCCTG 9 21 LysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuPro 3 21 LIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	81 AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCys 3	241 CysprotyrasppheLeuLysIleGlnThraspArgGluGluHisGlyPropheCysGly 260	201 TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly 220	0 10	61 GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys 1 	GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu 16	21 TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspTleAsp	101 ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp 120 	O — B	61 PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer 80 	41 AsnaspGlnGluargArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr 60 	21 LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla 40 

DЬ Qy g δÃ Ъ Š

밁 δÃ B QΥ

Ļ Liver

Cancer

```
Sequence 2256, Application US/(
Patent No. US20020142981A1
GENERAL INFORMATION:
APPLICANT: Horne, Darci T.
APPLICANT: Vockley, Joseph G.
APPLICANT: Scherf, Uwe
                                                                      RESULT 3
US-09-880-107-2256
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                     1717
                                                                                                                                                                                                                                                                                                                                                                                              1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1177
                                                                                                                                                                                      1957
                                                                                                                                                                                                                                                                                                                                                                                                                                     1597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1537
                                                                                                                                                                                                                                                                     1837
                                                                                                                                                                                                                                                                                                                                                                        561
                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 381
                                                                                                                                                                                                        641
                                                                                                                                                                                                                                                 621
                                                                                                                                                                                                                                                                                                                                  581
                                                                                                                                                                                                                              897
                                                                                                    LeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeu
                                                                                                                                                                                                                                                                                                                                                    TyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGlyPheTrpThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGGAAGCAGGTCAGTATGGAGTCTACACAAAAGTTATTAACTATATTCCCTGGATCGAG
                                                                                                                                                      GlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGlu
                                                                                                                                                                                     GATAGTGAAACAGAGAGGTTTGTGGGGAGGAATAGTGTCCTGGGGTTCCATGAATTGT
                                                                                                                                                                                                AspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCys
                                                                                                                                                                                                                             TTAGAAAGTGGGGGCAAGGACAGCTGCAGAGGTGACAGCGGAGGGGCACTGGTGTTTCTA
                                                                                                                                                                                                                                                                     GCATATGAAAAGCCACCCTATCCAAGGGGAAGTGTAACTGCTAACATGCTTTGTGCTGGC
                                                                                                                                                                                                                                                                                AlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGly
                                                                                                                                                                                                                                                                                                           GAAGGTTATACTCATGATGCTGGCTTTGACAATGACATAGCACTGATTAAATTGAATAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                              GluGlyTyrThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCCTGAAAAGACTATCACCTCATTATACACAAGCCTGGTCTGAAGCTGTTTTTTATACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGCTCATGCCGTCTATGAGCAAAAACATGATGCATCCGCCCTGGACATTCGAATGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAlaLeuAspIleArgMetGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGATATTAGGTGGAACCACAGCAGCAGGTGCACTTTTATATGACAACTGGGTCCTAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACACAATGAAAGTGAATGATGGTAAATATGTGTGAGGCTGATGGATTCTGGACGAGC
Logic,
                                                             US/09880107
                                                                                                                         686
                      G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                              1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1356
                                                                                                                                                               680
                                                                                                                                                                                                                                                                    1896
                                                                                                                                                                                                                                                                                         620
                                                                                                                                                                                                                                                                                                             1836
                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                     1776
                                                                                                                                                                                                                                                                                                                                                                                             1716
                                                                                                                                                                                                                                                                                                                                                                                                                560
                                                                                                                                                                                                                                                                                                                                                                                                                                     1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400
                                                                                                                                             2076
                                                                                                                                                                                    2016
                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                 640
                                                                                                                                                                                                                                                                                                                                                                        580
                                    QΥ
                                                            В
                                                                              20
                                                                                                                       Qy
                                                                                                                                            밁
                                                                                                                                                              Qy
                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
Š
                   В
                                                                                                    밁
                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: US-09-880-107-2256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 2256
LENGTH: 2493
TYPE: DNA
ORGANISM: HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
206
                    646
                                       186
                                                             586
                                                                                                    526
                                                                                                                        149
                                                                                                                                             466
                                                                                                                                                               131
                                                                                                                                                                                    406
                                                                                                                                                                                                        116
                                                                                                                                                                                                                             346
                                                                                                                                                                                                                                                                                                             226
                                                                                                                                                                                                                                                                                                                                                     166
                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                166
                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                        76
                                                                                                                                                                                                                                                                                                                               56
                                                                                                                                                                                                                                                                                                                                                                                                                 16
                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                        36
                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OF INVENTION: Gene Expression Profiles REFERENCE: 44921-5028-WO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7.95e-130
1412.00
56.73%
41.75%
37.57%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genbank
```

д δÃ Ър Qy DЪ ž DЪ Ş 밁 Qy Дb Qy В Qy Вb Ωy Вþ Qy

```
CURRENT APPLICATION NUMBER: US/09/880,107
CURRENT FILING DATE: 2001-06-14
PRIOR APPLICATION NUMBER: US 60/211,379
PRIOR FILING DATE: 2000-06-14
PRIOR APPLICATION NUMBER: US 60/237,054
PRIOR FILING DATE: 2000-10-02
NUMBER OF SEO ID NOS: 3950
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-874-198-2 (1-686) x US-09-880-107-2256 (1-2493)
                                                                                                                                                                                                                                                                                                                                                                       GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu
|||:::||| ||| |||:::|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrPheArgSerAspTyrSerAsnGluLysPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys-----
ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                         GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                 TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                     SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                               GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                                      -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                                                                                                CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCACTGGGCAACCCCCGGGAAAGAAGAAGTTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No. US20020142981A1 M14058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ·----PheThrGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2493
301
108
248
64
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GlySerValAla
                                                                                              205
                                                                                                                                                                                                                                                                                                165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15
                                                                                                                                              645
                                                                                                                                                                                               185
                                                                                                                                                                                                                                                                                                                                                525
                                                                                                                                                                                                                                                                                                                                                                                            148
                                                                                                                                                                                                                                                                                                                                                                                                                                               465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             285
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                        망
                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                Š
                                               B
                                                                          Ş
                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                      1483
                                                                                                                                                                                                                                                                                                                                                                                                                                  1366
                                                                                                                                                                                                                                         1543
                                                                                                                                                                                                                                                                                                                                                                   1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1006
                                                                                                                                                                            1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1066
                                                                                                                                                                                                         493
                                                                                                                                                                                                                                                                                                                                                                                                   436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         226
                                                                                                                                                                                                                                                                                                                                                                               ---LeuSerAlaArgThrThrGlyGlyArgTleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Val-----AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
                                            GAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCTG
                                                                                                                                                                                         ---SerAlaLeuAspIleArgMetGly------ThrLeuLysArgLeuSer
                                                                                                                                                                                                                                    GACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCCAAGGAACACGAAGCGCAAAGC
                                                                                                                                                                                                                                                      AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                                                                                                                                                                                                                                                                                                     AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr 474
::::|||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAAGAATGAACAGAAGGGAGAAG---ATTCCTCGGTGCTTGCCAGTGTGTGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGGTGTACACCTGCACAGCACAGGGCATT 1365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLys 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACAATGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThralaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTGCTACCTGCAAGCAAGGCTACCAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThr
                                                              Ala-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                       ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp
                                                                                                                                                                       AACGCCTCTTTGGATGTGTTCCTGGGCCACACAAATGTGGAAGACCTCATGAAGCTAGGA 1662
                                                                                                                                                                                                                                                                                                 AACTTCCCCTGGCAGGTGTTCACCAACATCCACGGGCGCGGGGGGGCCCCTGCTGGGC
                                                                                                                                                                                                                                                                                                                                                                CCCGTGAACCCCGTGGAACAGAGGCAGCGCATAATCGGAGGGCAAAAAGCCCAAGATGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGAACACCTACAAGGCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProProAsn----GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCGGGGCTGGAAGCTGCGCTACACCGACCGAGATCAAGTGCCCCCAGCCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACCTCGACACCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       {\tt AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT
::
:::::
                                                                                                                                                                                                                                                                                                                                                                                              454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1185
                                                                          544
                                                                                                           1710
                                                                                                                                                                                                                                                                                                   1542
                                                                                                                                                                                                                                                                                                                                                                                                                               1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          825
                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         765
```

Š

S

```
NUMBER OF SEQ ID NOS: 850
SOFTWARE: PERL Program
SEQ ID NO 613
SEQ ID NO 613
LENGTH: 2555
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-044-090-613; Sequence 613, Application US/10044090; Patent No. US20020137081A1
                        Ş
                                                        В
                                                                                  Š
                                                                                                                  DЬ
                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
В
                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                        US-09-874-198-2 (1-686) x US-10-044-090-613 (1-2555)
                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                         US-10-044-090-613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Olga Bandman
TITLE OF INVENTION: GENES DIFFERENTIALLY EXPRESSED
FILE REFERENCE: PA-0028 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/10/044,090 CURRENT FILING DATE: 2002-01-09
                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1771 GGTCCCAACCTCCTCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                              NO. :
                                                          177
222
                                                                                                                  120
                             36
                                                                                                                                            1 MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG
                        ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr 55
                                                                       ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe
                                                                                                               ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGAGGCTCCATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGGC---ATCGGG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGGATAGTGGGGGGCGTTTTTGCAGTA 2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTTGATGGGCTATGTCAGTGGCTTCGGGGTCATGGAGGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProProTyrProArgGlySer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn
                                                                                                                                                                                                                                  Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2157
                                                                                                                                                                                                                                                                                                                                     Incyte
                                                                                                                                                                                                      8.25e-130
1412.00
56.73%
41.75%
37.57%
                                                                                                                                                                                                                                                                                                                                       ID
                                                                                                                                                                                                                                                                                                                                       ŏ.
                                                                                                                                                                                                                                                                                                                                       US20020137081A1 1003386CB1
                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                              Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                     2555
301
108
248
248
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IN VASCULAR TISSUE ACTIVATION
                                                                                                                                            -GlySerValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                604
                                                                                  35
281
                                                        221
                                                                                                               176
```

Q

Db Qy

D OY D OY D

```
1302
    405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                402
                                                                                                                                                                                                                                                                                                                                                                                                                                              002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96
                                                                                                                    ThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal
                                                                                                                                                                                                                                                                               GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu
    Val--
                                        GTGAACACCTACAAGGCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCAG
                                                                           ValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLys
                                                                                                                                                        AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrTleThrGlyProGly
                                                                                                                                                                                                                                                                                                                                                            CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                               ProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              {\tt AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheno} \\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrPheArgSerAspTyrSerAsnGluLysPro-------PheThrGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGGAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr::::|||||||:::|||||||||||||||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCACTGGGCAACCCCCCGGGAAAGAAGAAGTTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT
·AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
    417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148
                                                                                                                                                                                                                                                                                 1181
                                                                                                                                                                                                                                                                                                                     344
                                                                                                                                                                                                                                                                                                                                                                                                                                         1061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   761
```

δÃ

Qy Db рь Оу Qy Β

Дy

```
US-09-808-602-92
; Sequence 92, Application US/09808; Patent No. US20020155115A1
; GENERAL INFORMATION:
; APPLICANT: Vernet, Corine A
; APPLICANT: Fernandes, Elma
; APPLICANT: Shimkets, Richard A
; APPLICANT: Majumder, Kumud
                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                          2157
                                                                                                                                                                                                                                                                                                        2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1362 ACCAGAGCTGGCAGCAGGAGTCTGAGCAAGGGGTGTACACCTGCACAGGACAGGGCATT
                                                                                                                                                                            2211 AAG 2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           493
                                                                                                                                                                                                                                                         CysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIle
                                                                                                                                                                                                                                                                                                                                                                                   Glu 680
                                                                                                                                                                                                                                         TGCAGCAGGGGC--
                                                                                                                                                                                                                                                                                                        AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGGC----ATCGGG
                                                                                                                                                                                                                                                                                                                     LeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn
                                                                                                                                                                                                                                                                                                                                                                    LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
::::||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAAGAATGAACAGAAGGGAGAGAG - - - ATTCCTCGGTGCTTGCCAGTGTGTGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTGTTCTCTCAAAACATGTTCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProProTyrProArgGlySer------ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCTTGATGGGCTATGTCAGTGGCTTCGGGGTCATGGAGGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTCCCAACCTCCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATCACCCCATCCGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACGCCTCTTTGGATGTGTTCCTGGGCCACACAAATGTGGAAGAGCTCATGAAGCTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---SerAlaLeuAspIleArgMetGly-----ThrLeuLysArgLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACTTCCCCTGGCAGGTGTTCACCAACATCCACGGGCGCGGGGGCGCGGGGCCCTGCTGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCGTGAACCCCGTGGAACAGAGGCCAGCGCATCATCGGAGGGCAAAAAGCCCAAGATGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly ::::::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn
                                                                                                             US/09808602
                                                                                                                                                                                                                                          -TATGGCTTCTACACCAAAGTGCTCAACTACGTGGACTGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1718
                                                                                                                                                                                                                                                                                                       2156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1826
                                                                                                                                                                                                                                          2210
                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1478
                                                                                                                                                                                                                                                                                                                                                                                                                                 2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                              619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1538
```

```
CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
PRIOR APPLICATION NUMBER: 60/186,596
PRIOR APPLICATION NUMBER: 60/186,596
PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                Q
                                                                                                                                      밁
                                                                                                                                                                     δÃ
                                                                                                                                                                                                         B
                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x US-09-808-602-92 (1-2386)
   밁
                                Q
                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Mezes, Peter S
APPLICANT: Mecbougall, John
TITLE OF INVERVION: No. US20020155115A1el Proteins and Nuclec Acids Encoding
FILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA PRGANISM: Homo sapiens 808-602-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 2386
   634
                                    186
                                                                                                     166
                                                                                                                                        514
                                                                                                                                                                                                             454
                                                                                                                                                                                                                                               131
                                                                                                                                                                                                                                                                                  394
                                                                                                                                                                                                                                                                                                                                                   334
                                                                                                                                                                                                                                                                                                                                                                                                                        274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ent Scores:
                                                                                                                                                                                                                                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                                                                                                                                       76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       52
                                                                                                                                                                                                      CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATTAGGGGAG
                GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                       SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer 185
                                                                                                                                    GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                             GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu
|||:::||| ||| |||:::||||||||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                                           PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr :::|||||||:::|||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---CCCATC------CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCTCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGTGGCTCTTGTACCTCCTGGTGCCGGCCCTGTTCTGCAGGGCAGGGCTCCATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys-------GlySerValAla
AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
                                                                   TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                          -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                            ACCTTCCACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                           ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe 130
                                                                                                                                                                                                                                                                                                                                                 CCACTGGGCAACCCCCCGGGAAAGAAGAAGTTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                     AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle 115
                                                                                                                                                                                                                                                                                                                                                                                                                     TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mishra, Vishnu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.17e-129
1410.00
56.73%
41.75%
37.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2386
301
108
248
64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55
                                                                                                                                                                       165
                                                                                                                                                                                                         513
                                                                                                                                                                                                                                          148
                                                                                                                                                                                                                                                                              453
                                                                                                                                                                                                                                                                                                                                                                                                                                                       95
693
                                                                   633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         213
                                                                                                                                                                                                                                                                                                                                                 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Same
```

```
Š
                                                                                                                    δõ
                                                                                                                                                                                Ş
                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
 õ
                                 밁
                                                                                         В
                                                                                                                                                     밁
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                          1471
                                                                                                                                                                                                                                                                                                                                                                                                1354
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1054
                                                                                                                                                                                 493
                                                                                                                                                                                                                                             475
                                                                                                                                                                                                                                                                                                        455
                                                                                                                                                                                                                                                                                                                                                                  436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                                                                                                                                                                                                                                                          GTGAACACCTACAAGGCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyProGly 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACCTCGACACCAGCAGCAATGCTGTGGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                               GAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAAGCTGGAAAATAGTGTCACCCTG
                                                     Ala-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIle
                                                                                                                                                                                                                                                                                                                                  CCCGTGAACCCCGTGGAACAGAGGCAGCGCATCATCGGAGGGCAAAAAAGCCCAAGATGGGC
                                                                                                                                                                                                                                                                                                                                                    ---LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                            Trp---ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--- 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGCACAGGGCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACAATGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTGCTACCTGCAAGCCAAGCCTACCAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                    ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp 526
                                                                                                                                                  AACGCCTCTTTGGATGTGTTCCTGGGCCACACAATGTGGAAGAGCTCATGAAGCTAGGA 1650
                                                                                                                                                                  ---SerAlaLeuAspIleArgMetGly-----
                                                                                                                                                                                                              GACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCAAGGAACACGAAGCGCAAAGC
                                                                                                                                                                                                                                                                                                    AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Val------AsnAspGlyLysTyrValCysGluAlaAspGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HisThrGlyTrpLysIleHisTyrThrSerThrAlaGlnProCysProTyrProMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGTTCCTGGAGCCTTTTGATATTGATGACCACCAGCAAGTACACTGCCCCTATGACCAG
AsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPhe
                                                                                         ----AGGGTCAGCGTCCACCCGGACTACCGTCAGGAT
                                                                                                                                                                              -ThrLeuLysArgLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      417
                                                                                         1698
                                                                                                                                                                                                                                                                          1530
                                                                                                                                                                                                                                                                                                                                  1470
                                                                                                                                                                                                                                                                                                                                                                  454
                                                                                                                                                                                                                                                                                                                                                                                             1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1053
                                                                                                                                                                                                                                            492
                                                                                                                                                                                                                                                                                                        474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           813
```

밁 Qy В ОÃ В

Qy В δÃ

В

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                          US-09-874-198-2 (1-686)
                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: US-09-880-107-2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-880-107-2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2105, Application US/09880107
Patent No. US20020142981A1
GENERAL INFORMATION:
APPLICANT: Horne, Darci T.
APPLICANT: Vockley, Joseph G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 44921-5028-WO
CURRENT APPLICATION NUMBER: US/09/880,107
CURRENT FILING DATE: 2001-06-14
PRIOR APPLICATION NUMBER: US 60/211,379
PRIOR FILING DATE: 2000-06-14
                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/237,054
PRIOR FILING DATE: 2000-10-02
NUMBER OF SEQ ID NOS: 3950
CTWARE: Patentin Ver. 2.1
ID NO 2105
NGTH: 2647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Vockley, Joseph G.
APPLICANT: Scherf, Uwe
APPLICANT: Gene Logic, Inc.
TITLE OF INVENTION: Gene Expression Profiles in Liver Cancer
                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2143 AAG 2145
                                        203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          640 LeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsn
     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                    ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT-
                                                                   MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTCCCAACCTCCTCCCCATCTGCCTCCCT-----GACAACGATACCTTCTACGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGGATAGTGGGGGGCGTTTTTGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProProTyrProArgGlySer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGACGAGAAG---ATTGCTCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genbank Accession
                                                                                                                                             1.35e-112
1238.00
52.78%
38.23%
32.94%
                                                                                                          x US-09-880-107-2105 (1-2647)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                 Length:
Matches:
                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                Conservative:
                                                                                                                                                                                                                                                                                                         No.
                                                                                                                                                                                                                                                                                                       US20020142981A1
                                                                                                                                           2647
268
102
283
48
18
                                                                                                                                                                                                                                                                                                       J04080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -ATCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            679
     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1869
                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2031
                                                                                        Ş
                                                                                                                          В
                                                                                                                                                          Qy
                                                                                                                                                                                             밁
                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЪ
                  Ω
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                1133
                                                                                                                                                                                                                                                                    1076
                                                                                                                                                                                                                                                                                                                                          1016
                    378
                                                                                                                                                                                                                                                                                                                                                                                                              956
                                                                                                                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41
GluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                       AAACTGAAATGTCAACCTGTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                 HisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgPro
                                                                                                                                                                                              TATGTCTTTAGAGATGTGGTGCAGATAACCTGTCTGGATGGGTTTGAAGTTGTGGAGGGA
                                                                                                                                                                                                                                                                    ATGCCCTGCCCT---AAGGAAGACACTCCCAATTCTGTTTGGGAGCCTGCGAAGGCAAAA
                                                                                                                                                                                                                                                                                                   GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys
                                                                                                                                                                                                                                                                                                                                      TTCCAAACTGATCTAACAGGGCAAAAAAAAGGGCTGGAAACTTCGCTATCATGGAGATCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp
:::||||||||:::|| ||||||:::||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                          CGTGTTGGTGCAACATCTTTCTATTCGACTTGTCAAAGCAATGGAAAGTGGAGTAATTCC
                                                                                                                                                                                                                               TyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly
                                                                                                                                                                                                                                                                                                                                                                     PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla
                                                                                                                                                                                                                                                                                                                                                                                                            GGTCATGGATTCCCTGGGCCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheSerValIleLeuAspPhe---ValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATCCCAAACCATATCCAGAGAACTCAAGGTGTGAATACCAGATCCGGTTGGAGAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGGTTACTTCTGCTCCTGCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAATGCACAGATTTTGTA---GATGTCCCT---TGTAGCCACTTCTGCAACAATTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTTCCAATGAAGAGCGTTTTACGGGGTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGAGACACTGAAGAAGGGAGGCTCTGTGGACAGAGGAGCAGTAACAATCCCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCACCCATCTGGACATTGAGCTGTCAGAGAACTGTGCGTATGACTCAGTGCAGATAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AshAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                       MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAAACTGCCTTGACAGTTTAGTTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAAGTGGTGGTGACCTTGCGGAGAGAGATTTTGATGTGGAAGCAGCTGACTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGAGGTAGAGAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC
                                                       1312
                                                                                                                                                                                                                                                                    1132
                                                                                                                                                                                                                                                                                                                                        1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                       317
                                                                                                                                                                                                                                                                                                                                                                                                                                               277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                    397
                                                                                                                                                                                                                               337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
```

B ρ Дb δÃ

밁 Qy

Score:

Ş

```
RESULT 7
US-10-044-090-472
US-10-044-090-472
; Sequence 472, Application US/10044090
; Patent No. US20020137081A1
; GENERAL INFORMATION:
; APPLICANT: Olga Bandman
; TITLE OF INVENTION: GENES DIFFERENTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                              망
                                                                                                                                                                           Š
                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1313
                                                                                                                                                2225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1601
                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                475
                                                                                                                                                                                                                                                                                                                                                                                                                          000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               491
                                                                                                                                              ATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuAsp---SerGluThrGluArgTrpPheValGlyGlyI1eValSerTrpGlySerMet
                                                                                                                                                                                                                                                                                                                                                GAGGAGAGAAG---GGCATGGATAGCTGTAAAGGGGACAGTGGTGGGGCCTTTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrGluLysProProTyrProArgGlySer-----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
:::|||||||||||
                                                                                                                                                                                                                                 AsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGTACTGGGTGCTGACGGCTGCTCATGTTGTGGAGGGAAACAGGGAGCCCAACAATGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCAGAGAACCCTTTGAAGAAAAACAGAGGATAATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerAlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGCCATATTACTACATGGAAAATGGAGGAGGTGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                                                                                  CAGGATCCCAATGACAAGACCAAATTCTACGCAGCTGGCCTGGTGTCCTGGGGGGCCC---
                                                                                                                                                                                                                                                                                                                                                                                    GlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPhe
                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGAGAAACCCACAGCAGATGCAGAGGCCTATGTTTTCACTCCTAACATGATCTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGATGGGGACCTGGATCTCAGGCTGGGGCCGAACAGAGAAGAGAGATCGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAATGGGACCCACCGTCTCCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyr-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACTTCCCCTGGCAAGTC---TTCTTTGACAACCCATGGGCTGGTGGAGCGCTCATTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTGGGTGAATGAGGTGCTGGGCCCGGAGCTGCCGAAATGTGTTCCAGTCTGTGGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAA----
                                                                                                                                                2227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ------GAGCATGTGTTTATTCATCCGGGATGGAAGCTGCTGGAAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----GACCCAGAGAGCACTTTGTTTGGTTCTGTCATCCGCTACACTTGTGAG
                                                                                                                                                                                                               CAGTGTGGGACCTATGGGCTCTACACACGGGTAAAGAACTATGTTGACTGG
       DIFFERENTIALLY
     EXPRESSED
 IN VASCULAR TISSUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1423
                                                                                                                                                                                                                                                678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1543
                                                                                                                                                                                                             2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         523
   ACTIVATION
 Š
                                                               Š
                                                                                                      В
                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                  Вþ
                                                                                                                                     δÃ
                                                                                                                                                                           밁
                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-874-198-2 (1-686) x US-10-044-090-472 (1-2659)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-044-090-472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: PA-0028 US
CURRENT APPLICATION NUMBER: US/10/044,090
CURRENT FILING DATE: 2002-01-09
NUMBER OF SEQ ID NOS: 850
SOFTWARE: PERL Program
SEQ ID NO 472
LENGTH: 2659
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens FEATURE: NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
 240
                                                                                                                                                                           716
                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                656
                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                  542
                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    254
                                                                    221
                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                 GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                     GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                                                                                                                                                                                                                                                                                                                                                                                  TTTTCCAATGAAGAGCATTTTACGGGGTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                  TTCCAAGTGGTGGTGACCTTGCGGAGAGAGATTTTGATGTGGAAGCAGCTGACTCAGCG
                                                                    PheSerValIleLeuAspPhe----ValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                           SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                              GGTGGTTACTTCTGCTCCTGCCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
                                                                                                                                                                                                                                                                                                                 GAATGCACAGATTTTGTA----GATGTCCCT----TGTAGCCACTTCTGCAACAATTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                    TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp::::||||||||||:::||| ||| ||||||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCAGGAGACACTGAAGAAGGGAGGCTCTGTGGACAGAGGAGCAGTAACAATCCCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAla
|{||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCACCCATCTGGACATTGAGCTGTCAGAGAACTGTGCGTATGACTCAGTGCAGATAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGAGGTAGAGAAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC
                                                                                                                                     TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly
                                                                                                                                                                        GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Incyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.36e-112
1238.00
52.78%
38.23%
32.94%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US20020137081A1 420115CB1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2659
268
102
283
48
```

120

100

80

361

421

301

20

253

180

200

541 140 601 160 655

```
Qy
                                                                                                                   Ъ
                                                                                                                                               Qy
                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                 멍
                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
               δÃ
                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                         1718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      378
                                                                                                                                                                                                                                                                                                                                                               491
                                                                                                                                                                                                                                                                                                                                                                                              .601
                                                                                                                                                                                                                                                                                                                                                                                                                              475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                      ---ThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgPro
                                               ATGGATGGGGACCTGGGACTGATCTCAGGCTGGGGCCGAACAGAGAAGAGAGATCGTGCT
                                                                                                                                    CCAGAAGGACGAACCAATTTTGATAATGACATTGCACTGGTGCGGCTGAAAGACCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                           GAGTACTGGGTGCTGACGGCTGCTCATGTTGTGGAGGGAAACAGGGAGCCAACAATGTAT
                                                                                                                                                                                                                                                                                                                                                                                                           PheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeu 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGCCATATTACTACATGGAAAATGGAGGAGGTGGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGCCCTGCCCT----AAGGAAGACACTCCCAATTCTGTTTTGGGAGCCTGCGAAAGCCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTCATGGATTCCCTGGGCCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAAACTGCCTTGACAGTTTAGTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
              ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                               ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla
                                                                                                                 AAAATGGGACCCACCGTCTCCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                                                                                                                                                                                                                                                                           TyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyr-----------
                                                                                                                                                                                                                                                                                                                           GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGAGAACCCTTTGAAGAAAAACAGAGGATAATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCTGGGTGAATGAGGTGCTGGGCCCCGGAGCTGCCGAAATGTGTTCCAGTCTGTGGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAA-----GACCCAGAGAGCACTTTGTTTGGTTCTGTCATCCGCTACACTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAACTGAAATGTCAACCTGTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTGTTGGTGCAACATCTTTCTATTCGACTTGTCAAAGCAATGGAAAGTGGAGTAATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATGTCTTTAGAGATGTGGTGCAGATAACCTGTCTGGATGGGTTTGAAGTTGTGGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCAAACTGATCTAACAGGGCAAAAAAAGGGCTGGAAACTTCGCTATCATGGAGATCCA
                                                                                                                                                                                                                                                                                                                                                         -AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis
                                                                                                                                                                                                                                                         -----GAGCATGTGTTTATTCATCCGGGATGGAAGCTGCTGGAAGTC
:::=
                                               1939
                                                                                                                                                                                                                                                                                                                           1717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1075
                                                                                                                   1879
                                                                                                                                                    562
                                                                                                                                                                                    1819
                                                                                                                                                                                                                        542
                                                                                                                                                                                                                                                         1759
                                                                                                                                                                                                                                                                                                                                                                                             1660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1015
                                                                                 582
                                                                                                                                                                                                                                                                                                                                                           508
                                                                                                                                                                                                                                                                                                                                                                                                                              490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             337
                                                                                                                                                                                                                                                                                           523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
```

```
밁
                       Qy
                                                      B
                                                                                   QΥ
                                                                                                                Вb
                                                                                                                                           QУ
                                                                                                                                                                           DЬ
                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                      ; NAME/KEY: misc_feature
; LOCATION: (2713)
; OTHER INFORMATION: n ed
US-09-925-301-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x US-09-925-301-182 (1-2725)
                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                           Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-925-301-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: ROSEN et al.
APPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Protein
FILE REFERENCE: PA106
CURRENT APPLICATION NUMBER: US/09/925,301
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05882
PRIOR FILING DATE: 2000-03-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Ver.
SEQ ID NO 182
LENGTH: 2725
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 182, Application US/09925301 Patent No. US20020052308A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/124,270 PRIOR FILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 1694
                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
379
                                                                                                                                                                             220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       620
                          61
                                                                                     41
                                                                                                                                              21
             PheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATA 2227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGATCCCAATGACAAGACCAAATTCTACGCAGCTGGCCTGGTGTCCTGGGGGCCC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCACCCATCTGGACATTGAGCTGTCAGAGAACTGTGCGTATGACTCAGTGCAGATAATC 438
                                                                        AsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyr 60
                                                                                                                                            LysTrpProGluProValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAla 40
                                                                                                                                                                                                       MetArgLeuLeuThrLeuLeuGlyLeuLeuCysGlySerValAlaThrProLeuGlyPro
                                                                                                                                                                                                                                                                                                                                                          Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAsp---SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA 1999
                                                         AGTGAGGTAGAGAAATCTTGGGACATAGAAGTTCCTGAAGGGTATGGGATTCACCTCTAC 378
                                                                                                                                                                           ATGTGGTGCATTGTCCTGTTTTCACTTTTGGCATGGGTTTATGCTGAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrGluLysProProTyrProArgGlySer-----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                               Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---ACCATGTATGGGGAGATCCTGTCCCCTAACTATCCTCAGGCATATCCC
                                                                                                                                                                                                                                                                  1.41e-112
1238.00
52.78%
38.23%
32.94%
                                                                                                                                                                                                                                                                                                                                                                                                     equals
                                                                                                                                                                                                                                                                                                                                                                                                     a,t,g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proteins
                                                                                                                                                                                                                                                                                Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antibodies
                                                                                                                                                                                                                                                                  2725
268
102
283
48
18
                                                                                                                  318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  619
                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       639
                                                                                                                                                                                                         20
```

```
οy
                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                  밁
                                                                                                                                                              ρ
                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                               Š
                                                                  밁
                                                                                              δÃ
   日
 1441
                                                                                                                                                                                                                                                                       1210
                                                                                                                                                                                                    1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               619
                                                                                                                                                                                                                                                                                                                                                                                                    .093 ATGCCCTGCCCT---AAGGAAGACACTCCCAATTCTGTTTGGGAGCCTGCGAAGGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluThrPheTyrThrMetLys---ValAsnAspGlyLysTyrValCysGluAlaAspGly
                                                                                                                                                            GluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeu
                 PheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeu
                                                                                                                               GAA-----GACCCAGAGAGCACTTTGTTTGGTTCTGTCATCCGCTACACTTGTGAG
                                                                                                                                                                                               AAACTGAAATGTCAACCTGTGGACTGTGGCATTCCTGAATCCATTGAGAATGGTAAAGTT
                                                                                                                                                                                                                                                                                        HisLeuProLeuLysSerPheThralaValCysGlnLysAspGlySerTrpAspArgPro
                                                                                                                                                                                                                                                                                                                                    TATGTCTTTAGAGATGTGGTGCAGATAACCTGTCTGGATGGGTTTGAAGTTGTGGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLys 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheSerValIleLeuAspPhe---ValGluSerPheAspValGluThrHisProGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAsp 140
AGCTGGGTGAATGAGGTGCTGGGCCCCGGAGCTGCCGAAATGTGTTCCAGTCTGTGGAGTC
                                                              GAGCCATATTACTACATGGAAAATGGAGGAGGTGGGGAGTATCACTGTGCTGGTAACGGG
                                                                                                                                                                                                                  MetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgVal
                                                                                                                                                                                                                                                                   CGTGTTGGTGCAACATCTTTCTATTCGACTTGTCAAAGCAATGGAAAGTGGAGTAATTCC 1269
                                                                                                                                                                                                                                                                                                                                                                   Tyr TleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAAACTGATCTAACAGGGCAAAAAAAGGGCTGGAAACTTCGCTATCATGGAGATCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTCATGGATTCCCTGGGSCTCTAAATATTGAAACCAAGAGTAATGCTCTTGATATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyLysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAAACTGCCTTGACAGTTTAGTTTTTGTTGCAGGAGATCGGCAATTTGGTCCTTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCAAGTGGTGGTGACCTTGCGGAGAGAAGATTTTGATGTGGAAGCAGCTGACTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATCCCAAACCATATCCAGAGAACTCAAGGTGTGAATACCAGATCCGGTTGGAGAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAGTTAATTGCAGTGGGGATGTATTCACTGCACTGATTGGGGAGATTGCAAGTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGTGGTTACTTCTGCTCCTGCCCCCGGAATATTTCCTCCATGATGACATGAAGAATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAATGCACAGATTTTGTA - - - GATGTCCCT - - - TGTAGCCACTTCTGCAACAATTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTTCCAATGAAGAGCGTTTTACGGGGTTTTGCTGCATACTATGTTGCCACAGACATAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAATTGTGGAAGAGTTCCAAGTCCCATACAACAACTCCAGGTGATCTTTAAGTCAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1092
1500
                                                                                               416
                                                                                                                                1380
                                                                                                                                                                                                 1329
                                                                                                                                                                                                                                                                                                                                     1209
                                                                                                                                                                                                                                                                                                                                                                     337
                                                                                                                                                                                                                                                                                                                                                                                                    1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                              1440
                                                                                                                                                                397
                                                                                                                                                                                                                                  377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                498
                                                                                                                                                                                                                                                                                                    357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
```

```
APPLICANT: Mendrick, Donna
APPLICANT: Mondrick, Donna
APPLICANT: Johnson, Kory
APPLICANT: Johnson, Kory
APPLICANT: Castle, Arthur
APPLICANT: Castle, Arthur
APPLICANT: Elashoff, Michael
APPLICANT: Gene Logic, Inc.
TITLE OF INVENTION: Molecular Toxicology Modeling
FILE REFERENCE: 44921-5038-US
CURRENT APPLICATION NUMBER: US/09/917,800A
CURRENT APPLICATION NUMBER: US/09/917,800A
PRIOR APPLICATION NUMBER: US 60/222,040
PRIOR FILING DATE: 2000-07-31
                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                      US-09-917-800A-1348
                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                     Sequence 1348, Application Patent No. US20020119462A1
                                                                                                                                                                                                                                                                                                                             2242
                                                                                                                                                                                                                                                                                                                                                                                                    2191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1957
                                                                                                                                                                                                                                                                                                                                                               679
                                                                                                                                                                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  491
                                                                                                                                                                                                                                                                                                                                                             Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ## HITTOCCCTGGCAAGTC---TTCTTTGACAACCCATGGGCTTGGTGGAGCGCTCATTAAT 1617
                                                                                                                                                                                                                                                                                                                             ATA 2244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGGATCCCAATGACAAGACCAAATTCTACGCAGCTGGCCTGGTGTCCTGGGGGCCC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAsp---SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---ThrHisAspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysVal 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Seralaarg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGly
                                                                                                                                                                                                                                                                                                                                                                                                ASnCySGlyGluAlaGlyGlnTyrGlyValTyrThrLySValIleAsnTyrIleProTrp
::: ||| ||||||:::||| |||||::: |||
-----CAGTGTGGGACCTATGGGCTCTACACACGGGTAAAGAACTATGTTGACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrGluLysProProTyrProArgGlySer----ValThrAlaAsnMetLeuCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTCGCCTCAAGGCGGCAAGGTTACCTGTAGCTCCTTTAAGAAAATGCAAAGAAGTGAAA 2016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCys---ThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAATGGGACCCACCGTCTCCCATCTGCCTACCAGGCACCTCTTCCGACTACAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTGGGTCCACCTCAGTGCAGACCTCACGGCTGGCAAAATCCAAGATGCTCACTCCT--- 1734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----AspAlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHis 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTyr 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGATGGGGACCTGGGATCTCAGGCTGGGGCCGAACAGAGAAGAGAGATCGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAla 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGAAGGACGAACCAATTTTGATAATGACATTGCACTGGTGCGGCTGAAAGACCCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCAGAGAACCCTTTGAAGAAAAACAGAGGATAATTGGAGGATCCGATGCAGATATTAAA
                                                                                                                                                                                                                                                                                                                                                               679
                                                                                                                                                                                                                                                     US/09917800A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1677
                                                                                                                                                                                                                                                                                                                                                                                                    2241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                           Ъ
                                                                                                                                           Qy
                                                                                                                                                                                   В
                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                         DЪ
                                                                                                                                                                                                                                                                                         Qγ
                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: Genbank Accession US-09-917-800A-1348
δõ
                                   밁
                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x US-09-917-800A-1348 (1-2908)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 60/295,798
PRIOR FILING DATE: 2001-06-06
PRIOR APPLICATION NUMBER: US 60/297,457
PRIOR FILING DATE: 2001-06-13
PRIOR APPLICATION NUMBER: US 60/298,884
PRIOR APPLICATION NUMBER: US 60/298,884
PRIOR FILING DATE: 2001-06-19
PRIOR APPLICATION NUMBER: US 60/303,459
PRIOR FILING DATE: 2001-07-09
NUMBER OF SEQ ID NOS: 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 1348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YPE: DNA
RGANISM: Rattus norvegicus
MEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NO . .
                                     784
                                                                                                                                                                                                                                                                                                                              550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    370
 203
                                                                                                                                                                                                                                                                                                                                                                  103
                                                                                                                                                                                                                                                                                                                                                                                                      490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43
                                                                                                                                                                                                                                                                                                                                                                                                                                        83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 60/222,880 FILING DATE: 2000-11-02 APPLICATION NUMBER: US 60/290,029 FILING DATE: 2001-05-11 APPLICATION NUMBER: US 60/290,645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 60/292,336 FILING DATE: 2001-05-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 2001-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTGTAGTGGGGATGTATTCACTGCCTTGATTGGGGAGATCGCAAGTCCCAATTATCCC
                                                                   LeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrPro
                                                                                                           TACTTCTGCTCCTGCCCCCAGAATACTTCCTCCACGATGACATGAGGACTTGTGGGGTC
                                                                                                                                PheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAla
:::::::|||||||||
                                                                                                                                                                                                        GlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGlyGly
                                                                                                                                                                                                                                                                             AsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAlaGluAspIleAspGluCys
                                                                                                                                                                                                                                                                                                                             GTAGAAGAGTTTCAATTCCCATACAATAGGCTCCAGGTGGTCTTTACGTCAGACTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                           AlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCGTGAAAACTTGGGACATAGAAGTCCCAGAGGGGTTTGGGATTCACCTTTACTTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnGluArgArgTrpThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GluPro---ValPheGlyArgLeuAlaSerProGlyPheProGlyGluTyrAlaAsnAsp
ArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSer
                                                                                                                                                                                   ACAGACTTTACA---GATGTCCCT---TGCAGCCACTTCTGCAATAACTTCATTGGTGGA
                                                                                                                                                                                                                                                          {\tt LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer}
                                                                                                                                                                                                                                                                                                                                                                                                      GGTATCGAGGAAGAGAGTCTGTGGCCAGAGGTCCAGCAAGAGTCCCAACTCCCCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATCTGGACATGGAGCTGTCAGAGAACTGTGCATACGACTCAGTGCAGATAATCTCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.65e-110
1214.00
54.57%
38.64%
32.30%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US20020119462A1 D88250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2908
262
108
268
40
19
                                                                                                                                                                                                                                                                                           142
                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                               182
                                                                                                                                                                                                                       162
                                                                                                                                                                                                                                                                                                                              609
                                                                                                                                                                                                                                                                                                                                                                                                      549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369
                                       843
```

```
ğ
                                                                                                                                                      밁
                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                   γ
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1318
                                                                                                                                                                                                                                                                                                                                                                                                                            1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1549
                                                                                                                                                                                                                                                                                          493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             844 AACCCATACCCGGAGAACTCAAGGTGTGAATACCAGATTCGGCTGCAGGAGGGCTTCCGA 903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrPheTyrThrMetLysValAsnAsp---GlyLysTyrValCysGluAlaAspGlyPhe :::||| |||:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAACTGACCTAACGGGGCAAAATAAAGGCTGGAAGCTTCGTTACCATGGAGATCCCATC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysThrLeuProHis-----ArgIleGluThrLysSerAsnThrValThrIleThrPhe 278
                                                                                                                                                                                                                                                                                                                                                             LeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla 492
                                                                                                                                                                                                                                                                                                                                                                                                                              TTTCCTTGGCAGGTCTACTTTGAGTCCCCCGAGGTGGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCysGluGlu 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGAGTGTCAACCTGTGGACTGTGGTGTTCCAGAACCCATTGAGAATGGTAAAGTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCTGTCCCAAAGAAATCAGT---GCTAATTCTATCTGGGAGCCCGAAAAGGCAAAATAC 1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTGTTGACTATCCGGAGAGAAGATTTTGATGTGGAACCAGCGGACTCAGAGGGGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValIleLeuAspPhe----ValGluSerPheAspValGlu----ThrHisProGluThrLeu
                  {\tt AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp}
                                                                ACAAATTTTGACAATGACATTGCCCTGGTGCAGCTCAAAGACCCTGTGAAAATGGGACCC 1893
                                                                                                     AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer
                                                                                                                                                        ATCACTGAACGTGTGATTATTCATCCCAGCTGGAAACAAGAGGACGACCTGAATACACGG
                                                                                                                                                                                                TrpSerGluAlaValPheIleHisGluGlyTyrThrHisAsp------
                                                                                                                                                                                                                                                ATGTATGTCGGGTCCACACTTCTGAAAATAGAGCGGTTGAGA----AATGCCCAGAGGCTC
                                                                                                                                                                                                                                                                                     SerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAla 512
                                                                                                                                                                                                                                                                                                                                      ATCGATGAGTACTGGGTGCTGACGGCCGCTCACGTTGTGGAGGGAAACTCTGACCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheProTrpGlnValLeuIle-----LeuGlyGlyThrThrAlaAlaGlyAlaLeu 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCGAGCCCTTTAAAGTACAGCAGAGGATATTTGGAGGATACTCTACAAAGATTCAAAGT 1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaArg-----ThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAsp 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGlyLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCATATTACTACATGGAACAGGAAGAAGGCGGAGAGTATCACTGTGCTGCTAATGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArgValGlu 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTGGCTCAACATCATTCTATTCCACTTGTCAAAGCAACGGACAGTGGAGCAATTCCAGG 1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspArgProMet
::: |||||| ::: |||||| :::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATGGATTCCCTGGACCTCTAACTATTAAAACCCAGAGCAATACTCTTGATATTGTCTTT 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGC---CACGACAGTTTGACTTTTGCTGCAAAAAACCAACAGTTTGGTCCTTACTGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GACCCAGAAGACACTGTATTCGGCTCCGTCATCCACTACACGTGCGAAGAG
------GGGGCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                                                                                                                                                                                                                        1716
                                                                                                                                                                                                                                                                                                                                                                                                                              1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1428
```

õ

밁 Ş

2188

642

Ş

Ъ

Ş 밁 Q B

567

1894

멍

2074

```
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-925-302-169
                                                                                                                                             US-09-874-198-2 (1-686) x US-09-925-302-169 (1-2063)
                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: n equals US-09-925-302-169
                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 169, Application US/09925302
Patent No. US20020044941A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins
FILE REFERENCE: PA104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 896
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 169
LENGTH: 2063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/925,302
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05918
PRIOR FILING DATE: 2000-03-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60/124,270
                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc feature LOCATION: (1219)
                                                                                                                                                                                                                                                                                                                                                                        AME/KEY: misc feature OCATION: (39)
OTHER INFORMATION: n equals
                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGly ::: :::::::||| ||||:::|||||||||||
                                                    LysIleGln-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAAGGACCCCAAATTCTATGTGGCTGGCCTGGTGTCCTGGGGGAAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAGCGAGGTCAAACGACTATGTTTTCACTGACAACATGATCTGTGCTGGG-----GAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsnLeuMet 586
                  TTCCTGGAGCCTTTTGATATTGATGACCACCAGCAANTACACTGCCCCTATGACCAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrProArgGlySer-----ValThrAlaAsnMetLeuCysAlaGlyLeuGluSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGGCGAAGTTACCCATAACATCTTTAGAAAAGTGCCAGCAGGTGAAAGTGGAAAACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGGGCTGATCTCTGGGTGGGGCCGAACAGAGATTAGAACCAATGTTATTCAACTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTGTTGCCCCCATCTGCCTGCCAGAAACCTTCTCAGACTACAACCCCCTCAGAGGTTGAC
                                                                                                                                                                                1.08e-76
873.00
46.39%
34.54%
23.23%
                                                                                                                                                                                                                                                                                                                            a,t,g,
                                                                                                                                                                                                                                                                                                                                                                           a,t,g,
                                                                                                                                                                                               Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                               ဝူ
                                                                                                                                                                                                                                                                                                                                                                              or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibodies
                                                                                                                                                                             2063
201
69
167
145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2013
                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 623
                                                    249
                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                            δÃ
                                                                                               밁
                                                                                                                            Š
                                                                                                                                                              DЬ
                                                                                                                                                                                            Š
                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                              1020
                                                                 493
                                                                                                                                                                                            454
                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                            903
                                                                                                                                                                                                                                                                                                                            417
                                                                                                                                                                                                                                                                                                                                                          843
                                                                                                                                                                                                                                                                                                                                                                                          404
                                                                                                                                                                                                                                                                                                                                                                                                                                                        384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249
                                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                                                                                                                                                                                                                                                              sVal-----AsnAspGlyLysTyrValCysGluAlaAspGlyPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGACCGCTGGATCCTCACAGCTGCCCACACCCTGTATCCCAAGGAACACGGAAGCGCAAAG
                                                                                                                                                                             yAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeuLeuTy 474
                                                                                                                                                                                                                                             ----LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGl 454
                                                                                                                                                                                                                                                                                          eTrp---ThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
                                                                                                                                                                                                                                                                                                                                                        GACCAGAGCTGGCAGCAGGGAGTCTGAGCAAGGGGTGTACACCTGCACAGCACAGGGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGAACACCTACAAGGCCCGTATCCAGTACTACTGCCATGAGCCATATTACAAGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eThrAlaValCysGlnLysAspGlySerTrpAspArgProMetProAlaCysSerIleVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sArgIleGluThrLysSerAsnThrValThrIleThrPheValThrAspGluSerGlyAs
rProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAs
                              CAACGCCTCTTTGGATGTGTTCCTGGGCCACACAATGTGGAAGAGCTCATGAAGCTAGG
                                                            ----SerAlaLeuAspIleArgMetGly-----ThrLeuLysArgLeuSe 506
                                                                                                                            rAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAla-----
                                                                                                                                                              CAACTTCCCCTGGCAGGTGTTCACCAACATCCACGGGCGCGGGGGGCGGGGCCCTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                       yValThrThrTyrLysAlaValIleGlnTyrSerCysGluGluThrPheTyrThrMetLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGACTGTGGGCAGCCCCGAAACCTGCCTAATGGTGACTTCCGTTACACCACCACCAATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACAGCTGTCTGCCAGGATGATGGCACGTGGCATCGTGCCATGCCCAGATGCAAGATCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATTGCTACCTGCAAGCAAGGCTACCAGCTCATAGAGGGGAACCAGGTGCTGCATTCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                eSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyH1sLeuProLeuLysSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aProProAsn---GlyHisValSerProValGlnAlaLysTyrIleLeuLysAspSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCCGGGGCTGGAAGCTGCGCTACACCACCGAGATCATCAAGTGCCCCCAGCCCAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTACTAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCYCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCTGAAAACACACATAAGGCAGGATTTCATCACCACCACCACCACCTGGCCACCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGGGCTGGGTAAGTTCCCCACACAACTAGAATTGGGTCATGGGGATCCCTTTTCACCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGTCCCAACTTCCTCGTGGATCCCCTGGCCAGCTGGGGCAGGAACGGCCAACATCACC
                                                                                                                                                                                                                            GCCCGTGAACCCCGTGGAACAGAGGCAGCGCATCATCGGAGGGCAAAAAAGCCAAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTAGACGAGTTCACCATCATCCAGAACCTGCAGCCTCAGTACCAGTTCCGTGACTACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -ThraspargGluGluHis-GlyProPheCysGlyLysThrLeuProHi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ************************
                                                                                                                                                                                                                                                                                                                                                                                                                                                       404
 526
                                                                                                                               492
                                                                                                                                                                                                                            1019
                                                                                                                                                                                                                                                                                            959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                        842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249
```

Ş

227

Score:

8 ..

밁 Š 밁

63

Q Ъ Ş В Qy B

Вþ δÃ 밁

```
TIOR APPLICATION NUMBER: PCT/US00/05918
OR FILING DATE: 2000-03-08
LOR APPLICATION NUMBER: 60/124,270
ATOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 896
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 168
LENGTH: 1148
                   Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                Score:
                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-925-302-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins
FILE REFERENCE: PA104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 168, Application US/09925302 Patent No. US20020044941A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/925,302
CURRENT FILING DATE: 2001-08-10
                                                                                                                                                                                        NAME/KEY: misc feature LOCATION: (1076)
OTHER INFORMATION: n ec
                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1692
                                                                                                                 No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGGGACCCGAACACTGATCGCTGGGTGGCCACGGGCATCGTGTCCTGGGGC---ATCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh
|||| :::|||:::|||:::||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nLeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgTh ::: ::::::||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGCAGCAGGGGC----TATGGCTTCTACACCAAAGTGCTCAACTACGTGGACTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGACACCCATCTCTAAAGCAGGACGCCTGCCAGGGGGGATAGTGGGGGGCGTTTTTGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GAGAACTGGCTCCGGGGAAAGAATAGGATGGATGTTCTCTCAAAACATGTTCTGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sProProTyrProArgGlySer-------ValThrAlaAsnMetLeuCysAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTCAGGTTTGTCCGTCTGCCCGTAGCTAATCCACAGGCCTGT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCTTGATGGGCTATGTCAGTGGCTTCGGGGGTCATGGAGGAGAAG---ATTGCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGTCCCAACCTCCTCCCCATCTGCCTCCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGAGTCCTACAATTTTGAGGGGGACATCGCCCTGCTGGAGCTGGAAAATAGTGTCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAATCACCCCATCCGCAGGNTCAGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValVall1 544
                   6.13e-59
689.50
57.78%
42.51%
18.35%
                                                                                                                                                                                          equals
                                                                                                                                                                                          a,t,
                                                                                                                                                                                          ġ
                                                                        Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GTCCACCCGGACTACCGTCAGGA
                                     Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GACAACGATACCTTCTACGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Antibodies
                   1148
142
51
119
22
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       604
                                                                                                                                                     Вþ
                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
               US-09-808-602-91
                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                     RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x US-09-925-302-168 (1-1148)
Sequence 91,
                                                                          1018
                                                                                                                305
                                                                                                                                                                                          286
                                                                                                                                                                                                                                868
                                                                                                                                                                                                                                                                     266
                                                                                                                                                                                                                                                                                                        838
                                                                                                                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                                                                                                                                 778
                                                                                                                                                                                                                                                                                                                                                                                                                      226
                                                                                                                                                                                                                                                                                                                                                                                                                                                            718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                 GluAlaPheTyrAlaAlaGluAspIleAspGluCys-----GlnValAlaProGlyGlu 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PheValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThr 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetArgLeuLeuThrLeuLeu-----GlyLeuLeuCys------
                                                                          CCTAGACGGAGTTCACCATCATCCAGAACCTGCAGCCTTC
                                                                                                                                                                                                                                GACCTCGACACCAGCAGCAATGCTGTGGATCTGCTGTTCTTCACAGATGAGTCGGGGGAC
                                                                                                                                                                                                                                                     CCCCCTGACCTGCGCTGCAACTACAGCATCCGGGTGGAGCGGGGCCTCACCCTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyrProArgProTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AlaProThrCysAspHisHisCysHisAsnHisLeuGlyGlyPheTyrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCCTACTACCAAGCTGTGGACCTTGATGAATGTGCTTCCCGGAGCAAATCAGGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrPheArgSerAspTyrSerAsnGluLysPro------PheThrGlyPhe 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACTGGGCAACCCCCCGGGAAAGAAGGAATTTATGTCCCAAGGGAACAAGATGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCAAGCCTTACCCCAACAACTTTGAAACAACCACTGTGATCACAGTCCCCACGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---CCCATC-----CCTCAGAAGTTATTTGGGGAGGTGACTTCCCCCTCTGTTC
                                                                                                                                                     AGCCGGGGCTGGAAGCTGCGCTACACCACCGAGRATCATCAAGTGCCCCCAGCCCAAGAC
                                                                                                                                                                         HisThrGlyTrpLysTleHisTyrThrSerThrAlaGln-ProCysProTyrProMetAl
                                                                                                                                                                                                                                                                                                        CTACAGATCTATGCCAACGGGAAGAACATTGGCGAGTTCTGTGGGAAGCAAAGGCCCCCC
                                                                                                                                                                                                                                                                                                                                LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis
                                                                                                                                                                                                                                                                                                                                                                                                                    AspPheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPheSerValIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCTGCCGTCCAGGCTATGAGCTTCAGGAAGACAGGCATTCCTGCCAGGCTGAGTGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSerAlaLeuCysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGATCCCCAGCCCCAGTGCCAGCACCTGTGTCACAACTACGTTGGAGGCTACTTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTTCCACACAGACTTCTCCAACGAGGAGAATGGGACCATCATGTTCTACAAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIle 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TATGTCAAGATCTCTGCTGATAAGAAAAGCCTGGGGAGGTTCTGTGGGCAACTGGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGGTGAAGCTCGTCTTCCAGCAGTTTGACCTGGAGCCTTCTGAAGGCTGCTTCTATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        {\tt ThrProLeuGlyProLysTrpProGluProValPheGlyArgLeuAlaSerProGlyPhe}
                                                                                                              aProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCGAGCTGTACACGGAGGCATCAGGCTACATCTCCAGCCTGGAGTACCCTCGGTCCTAC
Application US/09808602
                                                                          1057
                                                                                                                318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GlySerValAla
||||||:::
```

1017

957

897

225

245 777 205

657 185 597 165 537

717

417

357

297 75

477

55 177 35

Qγ

밁 Qγ 밁

뮍 Ωy g

Patent No. US20020155115A1

```
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                            B
                                                                                                                       ô
                                                                                                                                                     ₽
                                                                                                                                                                              δÃ
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
       õ
                                     В
                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x US-09-808-602-91 (1-3318)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens US-09-808-602-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Vernet, C
APPLICANT: Fernande
APPLICANT: Shimkets
APPLICANT: Herrman,
APPLICANT: Majumder
APPLICANT: Mishra,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: MacDougall, John
TITLE OF INVENTION: No. US20020155115A1el Proteins and Nuclec Acids Encoding
FILE REFERENCE: 15966-697 CIP
CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
STOR APPLICATION NUMBER: 60/186,596
OR FILING DATE: 2000-03-03
BER OF SEQ ID NOS: 114
FUMARE: Patentin Ver. 2.1
SEQ ID NO 91
LENGTH: 3318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
         196
                                                                                                                                                                                                               431
                                                                                                                                                                                                                                                                       371
                                                                                                                                                                                                                                                                                                                             311
                                                                                                                                                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143
                                                                                                                                                                                                                                                                                                                                                                                        251
                                                                                                                                                                                                                                                                                                  96
                                                                                                                                                                                                                                                                                                                                                            76
                                                                                                                                                                                                                                                                                                                                                                                                                    56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr
    uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe
                                                            nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe
                                                                                                                                                                                                                                      rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl
                                                                                                                                                                                                                                                                                 pThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleTh
                                                                                                                                                                                                                                                                                                                                              eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs
                                                                                                                                                                                                                                                                                                                                                                                    TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGACTC
                                                                                                                                                                                                                                                                                                                                                                                                      sHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176
                                                                                                                                                                              aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy
                                                                                                                                                                                                             CTTCCGCACACAGCCTTCCTCGGAG-----
                                                                                                                                                                                                                                                                    TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC
                                                                                                                                                                                                                                                                                                                          TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                             AGAGCCGTATGGCAAAGGCCAAGAGAGCAGCACGGACATCAAGGCTCCAGAGGGCTTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Herrman, John L
Majumder, Kumud
Mishra, Vishnu
Mezes, Peter S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fernandes, Elma
Shimkets, Richard A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Corine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2.45e-39
498.00
33.67%
23.03%
13.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3318
158
73
194
261
20
                                                                                         Α̈́A
                                                              196
                                                                                                                                                                               156
                                                                                          457
                                                                                                                                                  455
                                                                                                                                                                                                            455
                                                                                                                                                                                                                                                                  430
                                                                                                                                                                                                                                                                                                                            370
                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Same
                                                                                                        밁
                                                                        Qy
                                                                                                                                  Ş
                                                                                                                                                              밁
                                                                                                                                                                                        Ş
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                          602
                   539
                                                                                                                                  501
                                                                                                                                                                887
                                                                                                                                                                                           490
                                                                                                                                                                                                                        827
                                                                                                                                                                                                                                                     470
                                                                                                                                                                                                                                                                                 767
                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                          719
                                                                                                                                                                                                                                                                                                                                                                                                                              416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                462
nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaG1 559
                                                                                                                                                                                                                  sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGl 470
                                             CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA 1054
                                                                                                                                                                                                                                                                                                                                                                                                                 sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG------GTCCAGAACCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACTAT------
                                                              uGlyTyrThrHisAspAla------GlyPheAspAsnAspIleAlaLeuIleLysLeuAs 539
                                                                                                     GATGCTGAAACTGGGGAACCACCCTGTC------CACCGTGTCGTTGTGCACCC
                                                                                                                                  rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl 521
                                                                                                                                                              TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                              GCCAGTCACCCCCATTGCCCAGAATCAGACGACC-----CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                  GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGGAGCCCTATTAT---CAGGCCGCCGCAGCAGGGGCACTCACCTGTGCAACCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -AGTCAGCCCATCAGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              yProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTCCACAAGGGCTTCCTGGCCCTCTAC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rLeuGluGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrH1
                                                                                                                                                                                        -------HisAspAlaSerAlaLeuAspIleArgMetGly------Th
                                                                                                                                                                                                                                                                                                                                                            -LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----ACTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----CAAACCGTGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GAGGCCAGCAG
                                                                                                                                                                                                                                                   489
                                                                                                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             497
                                                                                                                                                                                                                                                                                                                                      766
                                                                                                                                                                                                                                                                                                                                                                                                718
                                                                                                                                                                                                                                                                                                                                                                                                                                                          658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      497
                                                                                                                                                                                                                                                                                826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  533
```

** CATATAGACATURAGATACACAGA CAGATAGATAGATAGATAGATAGATAGATAGATAGATAGA			.874-198-2 (1-686) x HS-09-808-602-20 (1-1356)	13.23% Indels:	SCOIR: 497.00 MAICINES: 157 Percent Similarity: 33.678 Conservative: 74  Best Local Similarity: 22.898 Mismatches: 194	ent Scores: 8.21e-40 Length:		56	SEQ		CURRENT APPLICATION NUMBER: US/09/808,602 CURRENT FILING DATE: 2001-03-14 PRIOR APPLICATION NUMBER: 09/800,198		APPLICANT:	APPLICANT: Majumder	APPLICANT: Fernandes, Elm APPLICANT: Shimkets, Rich ADDITCANT: Harrman Tohn	GENERAL INF	Sequence 20, Application US/09808602  Patent No. US20020155115A1	-09-808-602-20	::: :::::::::::::::::::::::::::::::::	Qy 679 eGluAsnIleIleSer 684	Db 1400 GTGTGGCGAAGGGTATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT 1453		9 eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs 	1283 TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCGTCTATGTGGT	Qy 619 aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh 639	Db 1226 CGCCTGGCTCCAAAAGAGACAGAGACCCGAGGTGTTTTCTGACAATATGTTCTGTGT 1282	LysProProTyrProArgGlySerValThrAla.	Db 1166 CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA 1225	LeuAlaArgAsnLeuMetTyrValAspI			Db 1055 GCACAGCATOCCCCTAGCCCCCAACGTCCTCCCCCTCTCTCTCTCTCTCT
Qy 396 sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl 416	Db 430GAGGCCATCAACGCACCTGGAGACAATCCTGCCAAGGTCCAGAACCACTG 479	ava.	Db 429 429	Qy 356 gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr 376	Db 423 GGCTCT 429	Qy 336 nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr 356	Qy 31b aLysTyrileLeuLysAspSerrneSerilePneCysGluTnTGJYTYrGIULeULGI 33b 10b 412GAGGCCAGCAG 422	397 - AGTCAGCCCATCAGC	Qy 296 rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl 316 :::	Qy 276 eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh 296 ;;; Db 390 GAACTAT	376	256 yProPheCysGlyLysThrLeuProHisArqIleGluThrLysSerAsnThrValThrIl	Db 375	340 CCICCMCMM000CLICCID0CCCICIMC	216 rLeuGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHi	Db 340ACTGCCCA 347	Qy 196 uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe 216	336 CAAG	 176 nLvsArqThrCvsSerAlaLeuCvsSerGlvGlnValPheThrGlnArqSerGlvGluLe	334	Oy 156 sHisAsnHisLeuGlyGLyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176	130 ασιμαθριτεαθρείο γεστιναικία του γοιματακίου Ικίνου Ενεμπορίου.	309 CTTCCGCACACGCCTTCCTCGGAG	116 rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl	Db 249 TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC 308	Qy 96 pThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleTh 116	Db 189 TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGCCTCCCC 248	Qy 76 eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs 96	Db 129 TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGGACTC 188	56 gLeuArgLeuTyrPheThrHisPheAspLeuGluLeuSerHisLeuCysGluTyrAspPh	Out of the second secon	36

Š

B

```
US-09-808-602-16
                                                                                                                                               RESULT 14
                                                                               Sequence 16, Application US/09808602 Patent No. US20020155115A1 GENERAL INFORMATION:
          APPLICANT: Vernet, Corine A
APPLICANT: Fernandes, Elma
APPLICANT: Shimkets, Richard A
APPLICANT: Herrman, John L
                                                                                                                                                                                                                                                                                                                                                                         1161
                                                                                                                                                                                                                                                                                                                                                                                                                                         1104
                                                                                                                                                                                1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1044
                                                                                                                                                                                                                                                                                                                                                                                                         619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                      ATGGACAATCATGCCCATCACTGGGTGGCCACGGGCATTGTGTCCTGGGGC---ATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCCTGGCTCCAAAAGAGACAGAGACCCGAG---GTGTTTTCTGACAATATGTTCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAGGGAGTGATGAAT 1347
                                                                                                                                                                                                                                                            nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIl
                                                                                                                                                                                                                                                                                                                                                                                                    \verb|aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh|\\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          uSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nAsnLysValVallleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATGCTGAAACTGGGGAACCACCCTGTC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        eGluAsnIleIleSer
                                                                                                                                                                                                                                           GTGTGGCGAAGGG----TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT
                                                                                                                                                                                                                                                                                                                                      eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs
                                                                                                                                                                                                                                                                                                                                                                        TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCGTCTATGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   yPheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACCCTCTACCGCAGCGGCTTGTTGGGCTACGTCAGTGGGTTTGGCATG----GAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------HisAspAlaSerAlaLeuAspIleArgMetGly------Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGTCACCCCATTGCCCAGAATCAGACGACC------CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ····-LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        yPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
Majumder, Kumud
                                                                                                                                                                                                             684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----CACCGTGTCGTTGTGCACCC
                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                        1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           450
                                                                                                                                                                                                                                                                                                                                        659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             704
                                                         δÃ
                                                                                          В
                                                                                                                         Š
                                                                                                                                                          В
                                                                                                                                                                                       Š
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                       용
                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
```

Š g Š 망 Š В

Ş 밁 γQ 밁 Š В

밁

Š Вb δÃ g S

무

밁 Š Вþ Š

δ

В

```
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 16
LENGTH: 1667
TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (34)..(1494)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Mishra, Vishnu
APPLICANT: Mezes, Peter S
TITLE OF INVENTION: NO. US20020155115A1el Proteins and
FILIE PETERENCE: 15966-697 CIP
CURRENT APPLICATION NUMBER: US/09/808,602
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
PRIOR FILING DATE: 2000-03-03
NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x US-09-808-602-16 (1-1667)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-808-602-16
  216
                                      478
                                                                                                                                                                                            472
                                                                                                                                                                                                                                  156
                                                                                                                                                                                                                                                                        471
                                                                                                                                                                                                                                                                                                           136
                                                                                                                                                                                                                                                                                                                                                 447
                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                                                                                                                                                                                                                             387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No . :
                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr
                                                                                                                                                      nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTCTTGGCCCAAGAGCTACCCCAG------CAGCTGACATCCCCCGGGTACCC
rLeuGluGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrH1
                                                                        uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe
                                                                                                                                                                                                                            sHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176
                                                                                                                                                                                                                                                                                                           aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy 156
                                                                                                                                                                                                                                                                                                                                               CTTCCGCACACAGCCTTCCTCGGAG-----
                                                                                                                                                                                                                                                                                                                                                                                   rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl 136
                                                                                                                                                                                                                                                                                                                                                                                                                         TCTGGGCAGGCCCCCTGGTCAGAGGGAGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCACAATCTCATTCGTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAGCCGTATGGCAAAGGCCAAGAGAGCAGCACGGACATCAAGGCTCCAGAGGGCTTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.4e-39
496.00
33.67%
22.89%
13.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and Nuclec Acids Encoding
                                      -ACTGCCCA
                                                                          216
                                                                                                                                                      196
                                                                                                                                                                                            473
                                                                                                                                                                                                                                                                      471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56
                                                                                                                  477
                                                                                                                                                                                                                                                                                                                                                 471
                                                                                                                                                                                                                                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Same
```

```
Ъ
                                                      В
                                                                                 Qy
                                                                                                                                                      Qy
                                                                                                                                                                                          망
                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                               δÃ
                  Ş
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                      1071
                   559
                                                                                                                                                                                                                                                                                                   490
                                                                                                                                                                                                                                                                                                                                                                      470
                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                                                                                                                                                                                                                                                                                                                         450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             236
                                                                                                                                                                                                                                                                                                                                                    yAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
uSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGl
                                                                               nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaGl 559
                                                                                                                                                                                                                                                                                                                                                                                                     AGCCAAGCTGGGCAACTTCCCCTGGCAAGCCTTCACCAGTATCCACGGCCGTGGGGGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                          sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGl
:||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aLysTyrIleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl
                                                  CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                                                      uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs 539
                                                                                                                                                                                          GATGCTGAAACTGGGGAACCACCCTGTC------CACCGTGTCGTTGTGCACCC
                                                                                                                                                                                                                            rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGl
                                                                                                                                                                                                                                                             TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                              ------HisAspAlaSerAlaLeuAspIleArgMetGly-----Th
                                                                                                                                                                                                                                                                                                                                  GGCCCTGCTGGGGGACAGATGGATCCTCACTGCTGCCCACACCATCTACCCCAAGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGTCACCCCCATTGCCCAGAATCAGACGACC------CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCTGGAAAGACAGACAGGATGGGGAGGAGGTTCTTCAGTGTATGCCTGTCTGCGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGGAGCCCTATTAT---CAGGCCGCCGCAGCAGGGGCACTCACCTGTGCAACCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG-----GTCCAGAACCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    {\tt gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyArrow} \\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -AGTCAGCCCATCAGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rAlaGlnProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAl 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACTAT -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \verb"eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIl 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTCCACAAGGGCTTCCTGGCCCTCTAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------GAGGCCAGCAG
                                                                                                                       1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            450
                                                                                                                                                                                          1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             256
                                                                                                                                                                                                                            521
                                                                                                                                                                                                                                                                                                                                  902
                                                                                                                                                                                                                                                                                                                                                                      489
                                                                                                                                                                                                                                                                                                                                                                                                     842
                                                                                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       567
```

```
밁
                                Qy
                                                                       Дb
                                                                                                         δÃ
                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-808-602-18/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                              US-09-874-198-2 (1-686) x US-09-808-602-18 (1-1691)
                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                       US-09-808-602-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Vernet,
APPLICANT: Fernande,
APPLICANT: Shimkets
APPLICANT: Herrman,
APPLICANT: Majumder
APPLICANT: Mishra,
                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 18, Application US/09808602 Patent No. US20020155115A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/808.
CURRENT FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/800,198
PRIOR FILING DATE: 2001-03-05
PRIOR APPLICATION NUMBER: 60/186,596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Herrman, John L
APPLICANT: Majunder, Kumud
APPLICANT: Mishra, Vishnu
APPLICANT: Mishra, Vishnu
APPLICANT: Mezes, Peter S
APPLICANT: Mezougall, John
TITLE OF INVENTION: NO. US20020155115A1el Proteins
FILE REFERENCE: 15966-697 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2000-03-03 NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 1691
 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1125
                                                                                                                                                                                                                                                                               No . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        619
                                    36
                                                                                                         17
AGAGCCGTATGGCAAAGGCCAAGAGAGCAGCACGGACATCAAGGCTCCAGAGGGCTTTGC 1402
                     oGlyGluTyrAlaAsnAspGlnGluArgArgTrpThrLeuThrAlaProProGlyTyrAr 56
                                                                                            ProLeuGlyProLys-TrpProGluProValPheGlyArgLeuAlaSerProGlyPhePr 36
                                                                                                                                                                                                                                                                                                Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGGGAGTGATGAAT 1485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               eGluAsnIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGTGGCGAAGGG-----TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT 1469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIl 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCCTCTATGTGGT 1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA 1241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCCTCTACCGCAGCGGCTTGTTGGGCTACGTCAGTGGGTTTGGCATG----GAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGGACAATCATGCCCATCACTGGGTGGCCACGGGCATTGTGTCCTGGGGC----ATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCCTGGCTCCAAAAGAGACAGAGACCCGAG---GTGTTTTCTGACAATATGTTCTGTGT 1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       yPheLeuAlaArgAsnLeuMetTyrValAspIleProIleValAspHisGlnLysCysTh
                                                                                                                                                                                                                                                                                                                                                                                                                             PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fernandes, Elma
                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                  1.43e-39
496.00
33.67%
22.89%
13.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Þ
                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            602
                                                                     CAGCTGACATCCCCCGGGTACCC
                                                                                                                                                                                  1691
157
74
194
261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nuclec Acids
                                                                       1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Same
```

맖

24 60 60

g Q

Вb

```
1050
                                                                                                                                                                                                 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            176 nLysArgThrCysSerAlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLe 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56
                                                                                                                                         nGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLysAspGlySerTrpAspAr
 yPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly--
                                                                                                                                                                                                                                gProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuProSerGlyAr 376
                                                                                                                                                                                                                                                                                                                                                                                    aLysTyrTleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACTAT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rLeuGluGluGlyPheSerValIleLeuAspPheValGluSerPheAspValGluThrHi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  uSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyrSerIleSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sHisAsnHisLeuGlyGlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAs 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aGluAspIleAspGluCysGlnValAlaProGlyGluAlaProThrCysAspHisHisCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTCCGCACACCCTTCCTCGGAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rPheArgSerAspTyrSerAsnGluLysProPheThrGlyPheGluAlaPheTyrAlaAl 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pThrGluArgAlaProGlyLysAspThrPheTyrSerLeuGlySerSerLeuAspIleTh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  eValLysLeuSerSerGlyAlaLysValLeuAlaThrLeuCysGlyGlnGluSerThrAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGGAGCCCTATTAT---CAGGCCGCGCAGCAGGGGCACTCACCTGTGCAACCCCAGG
                                                                         sGluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGluAlaAspGl
                                                                                                                 ----GAGGCCATCAACGCACCTGGAGACAACCCTGCCAAG-----GTCCAGAACCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                -AGTCAGCCCATCAGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eThrPheValThrAspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerTh 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       yProPheCysGlyLysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sProGluThrLeuCysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTCCACAAGGGCTTCCTGGCCCTCTAC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGGGCAGGCCCCCTGGTCAGAGGGAGGTTTGTATCCTCAGGGAGGAGTTTGCGGCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTCACAATCTCGTTCGGTTCGGATCCAAGCCAGTTCTGTGGTCAGCAAGGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGAGGCTCGTCTTCCAGGACTTCGACCTGGAGCCGTCCCAGGACTGTGCAGGGGACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GAGGCCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -ACTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1342
                                                                                                                                                                                                                                                                                                                                                1108
                                                                                                                                                                                                                                                                                                                                                                                                                            1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76
                                                                                                                                                                                             1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                US-10-099-700A-1
                                                                 Sequence 1, Application US/10099700A

Publication No. US20030008372A1

GENERAL INFORMATION:
APPLICANT: Edwin L. Madison
APPLICANT: Edgar O. Ong

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING TRANSMEMBRANE SERINE
TITLE OF INVENTION: ENCODED POLYPEPTIDES AND METHODS BASED THEREON

FILE REFERENCE: 24745-1613
CURRENT APPLICATION NUMBER: US/10/09,700A CURRENT FILING DATE: 2002-05-24 PRIOR APPLICATION NUMBER: 60/275,592 PRIOR FILING DATE: 2001-03-13
                                                                                                                                                                                                                                                                                                                              679
                                                                                                                                                                                                                                                                                                                                                                                                                                              309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          993
                                                                                                                                                                                                                                                                                          198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            559
                                                                                                                                                                                                                                                                                                                                                                    252
                                                                                                                                                                                                                                                                                                                                                                                    nCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIL
||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nAsnLysValValIleAsnSerAsnIleThrProIleCysLeuProArgLysGluAlaG1
::: ::: ||||:::|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        eGluAsnIleIleSer 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                              eLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPh 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rAlaAlaTyrGluLysProProTyrProArgGlySerValThrAlaAsnMetLeuCysAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACCCTCTACCGCAGCGGCTTGTTGGGCTACGTCAGTGGGTTTGGCATG---GAGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rLeuLysArgLeuSerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleH1sGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            yAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCCAAGCTGGGCAACTTCCCCTGGCAAGCCTTCACCAGTATCCACGGCCGTGGGGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sAlaLysProGlyAspPheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGl
:||||||
                                                                                                                                                                                                                                                                                        CAAGGGAGTGATGAAT 183
                                                                                                                                                                                                                                                                                                                                                                  GTGTGGCGAAGGG - - - - - TATGACTTCTACACCAAGGTGCTCAGCTATGTGGACTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGGACAATCATGCCCATCACTGGGTGGCCACGGGCATTGTGTCCTGGGGGC---ATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGGATGAGACGCAAAGGCACAGTGTCTGCCAGGGGGACAGTGGCAGCCTCTATGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCCTGGCTCCAAAAGAGACAGAGACCCGAG---GTGTTTTCTGACAATATGTTCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGCTAACTACTGAGCTGAAGTACTCGAGGCTGCCTGTAGCTCCCAGGGAGGCCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGACTACCGTCAGAATGAGTCCCATAACTTTAGCGGGGACATCGCCCTCCTGGAGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uGlyTyrThrHisAspAla-----GlyPheAspAsnAspIleAlaLeuIleLysLeuAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATGCTGAAACTGGGGAACCACCCTGTC------CACCGTGTCGTTGTGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------HisAspAlaSerAlaLeuAspIleArgMetGly-----Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCTGCTGGGGGACAGATGGATCCTCACTGCTGCCCACACCATCTACCCCAAGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGTCACCCCCATTGCCCAGAATCAGACGACC------CTCGGTTCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        uSerPheMetArgThrAspAspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTTTCTCTCAGGAAGAACCAGAGTGTGAATGTGTTCTTGGGCCACACAGCCATAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLy
:::||||||||
                                                                                                                                                                                                                                                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         766
```

Вp

Ş

5 B 5

04 07 09 09 09

Ş

В

B 8

PROTEASE

85 AG

2y 2b

B

```
Qy
                                                                                                                                     Дb
                                                                                                                                                                    δõ
                                                                                                                                                                                                      В
                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ent Similarity:
Best Local Similarity:
Query Match:
                              δõ
                                                                  밁
                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
В
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-874-198-2 (1-686) x US-10-099-700A-1 (1-3147)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-099-700A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
LOCATION: (23)...(2589)
OTHER INFORMATION: Nucleotide sequence encoding MT:
PUBLICATION INFORMATION:
AUTHORS: O'Brien, T.J. and Tanimoto, H.
DATABASE ACCESSION NUMBER: GenBank #AR081724
DATABASE ENTRY DATE: 2000-08-31
PATENT DOCUMENT NUMBER: 5,972,616
PATENT FILING DATE: 1998-02-20
PUBLICATION DATE: 1999-10-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 22
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 3147
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo Sapien
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nment Scores:
                                                                                                                                       1043
1151
                                                                    1091
                                                                                                                                                                                                           1042
                                                                                                                                                                                                                                                                              1040
                                  222
                                                                                                     202
                                                                                                                                                                         182
                                                                                                                                                                                                                                              162
                                                                                                                                                                                                                                                                                                                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                                     926
                                                                                                                                                                                                                                                                                                                                                                                                                                                    103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               701 CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29
                                                                                    ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC 1210
                                                                                                                                                           AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201
                                                                                                                                                                                                                                                                                                                                               CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCCTTCCAGCTGCCTAGGATGAGCAGC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                      LysaspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
                              SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu 240
                                                                CCAGGCCACTACCCAACCATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                   ------GGAGGCCGCTTACGTAAAGCCCCAGGGGACATTCAACAGCCCCTACTAC
                                                                                                                                                                                                                                        GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                                                                                                                                             CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                                                                                AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu 141
                                                                                                                                                                                                                                                                                                                                                                                                                  AACCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCTGCGACGAGCGCGGCAGCGACCTGGTGACCGTTGAACACCCTGAGCCCCATGGAG 880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCCACGCCCTGGTGCAGTTGTGTGGC------ACCTACCCTCCCTCCTAC 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.4e-38
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                       .----- 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MTSP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3147
186
90
270
184
31
                                                                                                                                                                                                        1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              820
                                                                                                     221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
```

_																														
Qy	Db	Qy	Db	Qy	Db	Qy	Db -	Qy	D 5	P 09	Db	Qy	DЪ	Qy	Дb	Qy	Db 43	} {	p <sub>b</sub> Qy	рb	Qy	Db VY	?	Оу	Db	Qy	DЪ	Qy	Qy Db	Qу
532 AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle 551	2123CCCTTCTTCAATGACTTCACCTTCGACTAT 2152	512 AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn 531	2072 CGCAGCGCCCTGGGGTGCAGGAGCGCAGGCTCAAGCGCATCATCTCCCCAC 2122	492 AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln 511	2012 TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG 2071	490	:::    :::	471 AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys		434 CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro 453	1802 AGCGACGGCTCAGATGAGAAGGACTGCGAC 1831	414 AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal 433		397 GluGluThrPheTyrThrMetLysValAsnAspGlyLysTyrValCysGlu 413	1706 GTGAACGTCGTCACTTGTACCAAACACACCTACCGCTGC 1744	377 ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys 396	Aspergment   Asp	27	360 AlacysSerIleval	1535 TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG 1585	345 ThrAlaValCysGlnLysAspGlySerTrpAspArgProMetPro 359	1475 AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC 1534	205 00001 0000000 0000 0000 0000 0000 00	319	1376 CCATGCCCG	299 ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318	1316 GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC 1375	281 AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSerThrAlaGln 298	261 LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr 280 ::: ::: !!! :::       :::       :::       :::	241 CysproTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly 260

```
; FEATURE:
NAME/KEY: CDS
: LOCATION: (1865)...(2590)
: OTHER INFORMATION: Nucleic acid sequence of protease domain of MTSP1
US-10-099-700A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                      Ş
                                                                                õ
                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 17
US-10-099-700A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                     밁
                                                                                                               US-09-874-198-2 (1-686) x US-10-099-700A-3 (1-3147)
                                                                                                                                                                                                                        Score:
                                                                                                                                                                                                                                      Pred. No.:
                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/10099700A Publication No. US20030008372A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Edgar O. Ong
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING TRANSMEMBRANE SERINE PROTEASE
TITLE OF INVENTION: ENCODED POLYPEPTIDES AND METHODS BASED THEREON
FILE REFERENCE: 24745-1613
CURRENT APPLICATION NUMBER: US/10/099,700A
CURRENT FILING DATE: 2002-05-24
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/275,592
PRIOR FILING DATE: 2001-03-13
NUMBER OF SEO ID NOS: 22
OFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Edwin L. Madison APPLICANT: Edgar O. Ong
                                                                                                                                                                                                                                                                                                                                                                                 ID NO 3
LENGTH: 3147
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369
                                                       701
 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysVallleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCTGGGGACACCCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCTGCCG----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp 47
                                                                                                                                                               1.4e-38
490.00
37.81%
25.48%
13.04%
                                                                                                                                                                 Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                     4.0
                                                                                                                                                  3147
186
90
270
184
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7,
   В
                                õ
                                                                 В
                                                                                                δÃ
                                                                                                                                В
                                                                                                                                                              Ş
                                                                                                                                                                                                  В
                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                 1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1040
1646 CAGCAGTGCAATGGGAAGGACGACTGTGGGGACGGGTCCGACGAGGCCTCCTGCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1151 CATGTGAAGGTGAGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGGCACC 1210
                                  365
                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGAGGTCCCAGTTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCCCCAAGGACTACGTGGAGATCAATGGGGAGAAA------TACTGCGGA 1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr
                                                               GGGTGCAGTTGTCCGGCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC 1645
                                                                                                                                                                                                                                                                                                                               CCATGCCCG-------GGGCAGTTCACGTGCCGCACGGGGGGGTGT 1414
                                                                                                                                                                                                                                                                                                                                                              ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                               GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                              AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----ThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerValIleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGGCCACTACCCCAACATTGACTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AsnGluLysProPheThrGlyPheGluAla···PheTyrAlaAlaGluAspIleAspGlu 141
                                                                                                  AlaCysSerIleVal--
                                                                                                                                TTCTGGGTCTGCGACAGTGTGAACGACTGCGGAGACAACAGCGACGAGCAG------
                                                                                                                                                            ThrAlaValCysGlnLys------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                               SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACCACCAGCGATGAGCTC
                                                                                                                                                                                                                                                                                                IleLeuLys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACCTGACCTTCCACTCCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysAspThrPheTyrSerLeuGlySerSerLeuAspTleThrPheArgSerAspTyrSer 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCACGCCCTGGTGCAGTTGTGTGGC----------ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                  AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTGCGACGAGCGCGGCAGCGACCTGGTGACCGTGTACAACACCCTGAGCCCCATGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                      ----AspCysGlyPro---ProAspAspLeuProSerGlyArg
                                                                                                                                                                                                                                                                                                -----AspSerPhe
                                                                                                                                1585
                                                                                                                                                                                                                                                                1474
                                                                                                                                                                                                                                                                                                                                                                                               1375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                  1534
                                                                                                                                                                                                                               344
                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1042
   1705
                              376
                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       820
                                                                                                364
                                                                                                                                                                                                                                                                                                                                                                                                                                 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      84
```

```
ρ
                                                                                                                                                         밁
                                                                                                                                                                                     Qy
                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                      US-09-925-301-351
                                                        RESULT 18
                                                                                        망
                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                    9
Sequence 351, Application Patent No. US20020052308A1
                                                                                                                                                          2486
                                                                                                                                                                                                                             2429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1706
                                                                                         2543
                                                                                                                                                                                                                                                                                               2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           471
                                                                                                                                                                                                                                                             631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   377
                                                                                                                                                                                                                                                                                                                                                                 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
                                                                                                                                                                              GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal :::||||||
                                                                                        AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2572
                                                                                                                     LysValIleAsnTyrIleProTrpIleGlu 680
                                                                                                                                                         GGTGTGGTGAGCTGGGGAGAC----GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                          GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                          GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                               CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCAGGTACTCAGACCCCACGCAGTGGACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCCAGGGCCACATCTGCGGTGCT 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyAspPheProTrpGlnValLeuIle-----LeuGly---GlyThrThrAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGGGCTGCGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGGCACGGATGCGGATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCGACGGC-----TCAGATGAGAAGGAC----TGCGAC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCAATGGGCTCTGAGCAAGGGCAACCCTGAGTGTGACGGGAAGGAGGACTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGAACGTCGTCACTTGTACCAAACACACC----
                                                                                                                                                                                                                                                                                                                                                                 CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG---
                                                                                                                                                                                                                                                                                                                                                                                               ProIleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----CCCTTCTTCAATGACTTCAACCTTCGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCCTCATCTCCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA 2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyrValCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys
                     Application US/09925301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --HisAsp------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -TACCGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1744
                                                                                                                                                         2542
                                                                                                                                                                                                                                                                                                                                                                                                 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                          670
                                                                                                                                                                                                                            2485
                                                                                                                                                                                                                                                             650
                                                                                                                                                                                                                                                                                               2428
                                                                                                                                                                                                                                                                                                                            630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2071
```

```
GENERAL INFORMATION:
APPLICANT: ROSEN et al.
APPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Proteins an
FILE REFERENCE: PA106
CURRENT APPLICATION NUMBER: US/09/925,301
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05882
PRIOR FILING DATE: 2000-03-08
PRIOR FILING DATE: 2000-03-08
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1694
                                                                               δõ
                                                                                                                망
                                                                                                                                              20
                                                                                                                                                                                   В
                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-925-301-351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-874-198-2 (1-686) x US-09-925-301-351 (1-2756)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 351
LENGTH: 2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature
LOCATION: (1597)
OTHER INFORMATION: n equals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature LOCATION: (2540)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: n equals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
               202
                                                                                                                  601
                                                                                                                                                   162
                                                                                                                                                                                    599
                                                                                                                                                                                                                      142
                                                                                                                                                                                                                                                       545
                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                                          485
                                                                                                                                                                                                                                                                                                                                                        103
                                                                                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                                                                                                                            380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.:
                                                                                                                                                                                                                                                                                                                                                                                                                          85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrLeuThrAlaProProGlyTyrArgLeuArgLeuTyrPheThrHisPheAspLeuGlu
            ProArgProTyrProLysLeuSerSerCysThrTyrSerIleSerLeuGluGluGlyPhe
                                                                                                                                               GlyPheTyrCysSerCysArgAlaGlyTyrValLeuHisArgAsnLysArgThrCysSer 181
                                                                                                                                                                                    TGT---
                                                                                                                                                                                                                  CysGlnValAlaProGlyGluAlaProThrCysAspHisHisCysHisAsnHisLeuGly 161
                                                                                                                                                                                                                                                       CGGCGGCATCCC-----GGCTTTGAGGCCACCTTCTTCCAGCTGCCTAGGATGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCTGCGGGGGGACGCCGACTCAGTGCTGAGCCTCACCTTCCGCAGCTTTGACCTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCTTCACCACGCCCGGCTTCCCTGACAGCCCCCTACCCCGCTCATGCCCGCTGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgLeuAlaSerProGlyPhePro---GlyGluTyrAlaAsnAspGlnGluArgArgTrp
                                               -----GGAGGCCGCTTACGTAAAGCCCAGGGGACATTCAACAGCCCCTACTAC
                                                                                AlaLeuCysSerGlyGlnValPheThrGlnArgSerGlyGluLeuSerSerProGluTyr 201
                                                                                                                                                                                                                                                                       AsnGluLysProPheThrGlyPheGluAla---PheTyrAlaAlaGluAspIleAspGlu
                                                                                                                                                                                                                                                                                                                        AACCTGACCTTCCACTCCTCCCAGAACGTCCTGCTCATCACACTGATAACCAACACTGAG
                                                                                                                                                                                                                                                                                                                                           LysAspThrPheTyrSerLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSer
                                                                                                                                                                                                                                                                                                                                                                                         CCCCACGCCCTGGTGCAGTTGTGTGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                       -----ValLeuAlaThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGly 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTGCGACGAGCGCAGCGACCTGGTGACGGTGTACAACACCCTGAGCCCCATGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuSerHisLeuCysGluTyrAspPheValLysLeuSerSerGlyAlaLys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.91e-38
481.00
37.95%
25.75%
12.80%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a,t,g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a,t,g,
Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ဝူ
                                                                                                                                                                                                                                                                                                                                                                                           ----ACCTACCCTCCCTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2756
188
89
269
185
31
                                                                                                                                                                                   601
                                                                                                                                                                                                                                                       598
                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                      544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               319
```

```
Š
                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                õ
                                                                     밁
                                                                                                  Ş
                                                                                                                                      В
                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
   밁
                                                                                                                                                                                                                                                                                                                                                 1361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1205
   1631
                                                                                                                                                                                                                                                                            1391
                                                                                                                                                                                                          1451
                                                                                                                                                                                                                                                                                                                                                                                                                   1304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1034
                                                                                                                                                                                                                                          454
                                                                                                                                                                                                                                                                                                                                                                                 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         377
                                                                                                                                                                                                                                                                                                              434
                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  710
                                                                                                                                                                                                                        AlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCysGluProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysProTyrAspPheLeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGly
CGCAGCCYCCTGGGGTGCAGGAGCGCAGG-CTCAAGCGCATCATCTCCCCAC----
                                                                                                                                                                                                                                                                       TGTGGGCTGCGGTCATTCACGAGACAGGCTCGTGTTGTTGGGGGCACGGATGCGGATGAG 1450
                                                                                                                                                                                                                                                                                                CysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysPro
                                                                                                                                                                                                                                                                                                                                                 AGCGACGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                               CTCAATGGGCTCTGCTTGAGCAAGGGCCAACCCTGAGTGTGACGGGAAGGAGGACTGT---
                                                                                                                                                                                                                                                                                                                                                                                                                                              GluGluThrPheTyrThrMetLysValAsn------AspGlyLysTyrValCysGlu 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGTGCAATGGGAAGGACGACTGTGGGGAACGGGTCCGACGAGGCCTCCTGCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCGGAAGGAGCTGCGCTGTGATGGCTGGGCCGACTGCACCGACCACGAGCGATGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCATGCCCG-------GGGCAGTTCACGTGCCGCACGGGGGGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProCysProTyrProMetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATCAGTCCTACACCGACACCGGCTTCTTAGCTGAATACCTCTCCTACGACTCCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspGluSerGlyAspHisThrGlyTrpLysIleHisTyrThrSer----ThrAlaGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysThrLeuProHisArgIleGluThrLysSerAsnThrValThrIleThrPheValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATGTGAAGGTGCGCTTCAAATTCTTCTACCTGCTGGAGCCCGGCGTGCCTGCGGGCACC
                              AlaSerAlaLeuAspIleArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGln
                                                                TTCAGGTACTCAGACCCCACGCAGTGNACGGCCTTCCTGGGCTTGCACGACCAGAGCCAG
                                                                                                                                  TCCCTCATCTCCCCAACTGGCTGGTCTCTGCCGCACACTGCTACATCGATGACAGAGGA 1570
                                                                                                                                                                 AlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLys---
                                                                                                                                                                                                     GGCGAGTGGCCCTGGCAGGTAAGCCTGCATGCTCTGGGCCAGGGCACATCTKGCGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGAACGTCGTCACTTGTACCAAACACACC-------TACCGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGlnTyrSerCys 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----ProAspAspLeuProSerGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGTGCAGTTGTCCGGCCCCAGACCTTCAGGTGTTCCAATGGGAAGTGCCTCTCGAAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTGGGTCTGCGACAGTGTGAACGACTGCRGAGACAACAGCGACGAGCAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrAlaValCysGlnLys------AspGlySerTrpAspArgProMetPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACTGCAGTTGCGACGCCGGCCACCAGTTCACGTGCAAGAACAAGTTCTGCAAGCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHisLeuProLeuLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleLeuLys------AspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAGGTCCCAGTTCGTCGTCACCAGCAACAGCAACAAGATCACAGTTCGCTTCCACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCCCCAAGGACTACGTGGAGATCAAYGGGGGAGAAA------TACTGCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerVallleLeuAspPheValGluSerPheAspValGluThrHis---ProGluThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGGCCACTACCCCAACCATTGAYTGCACATGGAACATTGAGGTGCCCAACAACCAG
                                                                                                                                                                                                                                                                                                                                             ----TCAGATGAGAAGGAC-----TGCGAC-----
                                                                                                                                                                                                                                         470
                                                                                                                                                                                                                                                                                                                                                                               433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1144
                                                                                                                                                                                                     1510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                511
                                                                1630
                                                                                                                                                                                                                                                                                                           453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              814
                                                                                                  491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             344
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 19
US-09-900-751-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/900,751
CURRENT FILING DATE: 2001-07-06
PRIOR APPLICATION NUMBER: US 60/217,449
PRIOR FILING DATE: 2000-07-10
PRIOR APPLICATION NUMBER: US 60/223,170
PRIOR APPLICATION NUMBER: US 60/223,460
PRIOR FILING DATE: 2000-08-07
PRIOR APPLICATION NUMBER: US 60/223,460
PRIOR FILING DATE: 2000-08-07
NUMBER OF SEO ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
 US-09-874-198-2
                                                                                                         Score:
                                                                                                                           Pred. No.:
                                                                                                                                        Alignment Scores
                                                                                                                                                                             US-09-900-751-1
                                                                                                                                                                                                                                                 SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/09900751 Patent No. US20020026653A1
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Allen, Keith D
APPLICANT: Leviten, Michael W.
TITLE OF INVENTION: TRANSGENIC MICE CONTAINING
TITLE OF INVENTION: PROTEASE GENE DISRUPTIONS
FILE REFERENCE: R-386
                                                                                                                                                                                                                                                                  SOFTWARE: FastSEQ
                                                                                                                                                                                            TYPE: DNA
ORGANISM: Mus
                                                                                                                                                                                                                                 LENGTH: 3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCATCAACCAGACCACCTGCGAGAACCTCCTGCCGCAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyTrpGlyLeuThrGlnArgGlyPheLeu---AlaArgAsnLeuMetTyrValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysLeuProArgLysGluAlaGluSerPheMetArgThrAspAspIleGlyThrAlaSer 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACATCGCGCTGCTGGAGCTGGAGAAACCGGCAGAGTACAGCTCCATGGTGCGGCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSerAsnIleThrProIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGCTCCCTCTGTTTCGGGACTGGATCAAA 2130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysValIleAsnTyrIleProTrpIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTGATTCCGGGGGACCCCTGTCCAGCGTGGAGGCGGAT----GGGCGGATCTTCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGATCACGCCGCGCATGATGTGCGTGGGCTTCCTCAGCGGCGGCGTGGACTCCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTGGGGACACACCCAGTATGGAGGCACTGGCGCGCTGATCCTGCAAAAGGGTGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCCTGCCG-----GACGCCTCCCATGTCTTCCCTGCCGGCAAGGCCATCTGGGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     {\tt AlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHisAspAlaGlyPheAspAsn}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTGTGGTGAGCTGGGGAGAC - - - GGCTGCGCTCAGAGGAACAAGCCAGGCGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTleValAspHisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGly
 (1-686)
                                                                                                                                                                                            musculus
x US-09-900-751-1 (1-3106)
                                 1.46e-36
469.50
38.86%
25.27%
12.49%
                                                                                                                                                                                                                                                                    Windows
                                                                                                                                                                                                                                                                    Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----CCCTTCTTCAATGACTTCACCTTCGACTAT
                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SERINE
                                   3106
186
100
309
141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2043
```

350	5 LeuGlnGlyHisLeuProLeuLysSerPheThrAlaValCysGlnLys	33	Qy
1544	ATAGTGATGAGCGTTACTGC	149	DЬ
334	GluThrGlyTyrGl;;;;	31	Qy
1490	1 TTCATGTGCAAGACTGGACGGTGCATCCGAAAGGAACTGCGCTGCGACGGCTGGGCAGAC	143	Db
317	4 MetAlaProProAsnGlyHisValSerProValGlnAlaLys	30	Qy
1430	GCTGAGTACCTCTCCTACGACTCCAACGACCCGTGCCCAG	137	Db
303	rpLysIleHisTyrThrSer	28	Qy
ω c	GTGGTGAGCAGCAGCAGCAGAGATTACAGTCCACTTCCATTCTGATCACTCGTACA		Db
ж Л	AralleGluThrivsSerAsnThrValThrIleThrPheValThrAsnCluSerGlvAs	Š	Ş
265 1310	6 LeuLysIleGlnThrAspArgGluGluHisGlyProPheCysGlyLysThrLeuProHis   :::::      6 GTGGGAGATCAACGGGGAGAAGTACTGCGGTGAAAGGTCCCAGTTT	24 126	Db
245 1265	7 PheValGluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPhe	22 20	,
1205	CCCAACATCAACTGCACATGGAATATC	4	В
226	U)	20	Qy
<u> </u>	:::       TTGAGTGACACCCAAGGGACATT	و	Db
0	, GlnValPheThrGlnArqSerGlyGluLeuSerSerProGluTyrProArqProTyrPr	18	ογ
1091	1	109	Db
186	HisArgAsnLysArgTh	16	Qy
1091	3	108	Db
166	lyrCysS	14	Qy
1082	GCTG	ū	Db
146	PheTyrAlaAlaGluAspIleAsp	12	Qy
1037	;;; \GAACGTCTTCCTTGTCACGCTGATAACCAATACTGACCGGC	œ	Db
127	${ t rLeuGlySerSerLeuAspIleThrPheArgSerAspTyrSerAsnGluLysF}$	10	Qy
107 980	8 ThrLeuCysGlyGlnGluSerThrAspThrGluArgAlaProGlyLysAspThrPheTyr	93	
935	6 GGCAGTGACCTGGTCACCGTGTATGATAGCCTGAGCCCCATGGAACCCCCACGCTGTGGTG	87	Db
87	/alLysLeuSerSerGlyAlaLys	7	Qy
875	6 GCCGACTCTGTGCTGAGCCTCACCTTCCGAAGCTTTGATGTCGCTCCCTGTGATGAGCAT	81	Db
72	~	ر. ت	Qy
815		75	Db
52	PheProGlyGluTyrAlaAsnAspGlnGluAr	ω	Qy
755	TTTGCCCTGCATGCCCATGGTGCAGCAGTGACACGCTTCACTACCCCT	69	Db
33	euAlaSerF	N	Qy
24 695	9 LeuLeuCysGlySerValAlaThrProLeuGlyProLysTrpProGlu :::               :::    ::: ::: 6 GTGCTAACATCTGTGGTGGCCTTCCCCATTGACCCCAGAATGCTGCAGAGGACTCAGGAC	63	Дy

	GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGlu 680	665	Qy
2564	ATGTTCCAGGCTGGTC	2508	Db
664	gTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGly	645	Qy
644	GlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThr	625	Qy
2507		2451	Дъ
624	ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly	605	Qy
2450		2409	Db
604	LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys	585	Qy
2408		2349	Db
584 2348	AspIleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPheLeuAlaArgAsn :::	566 2289	Оу
565	SerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAsp::: ::	546	Qy
2288		2235	Db
545	ASPAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsn	526	Qy
2234		2175	Db
525	SerProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis :::	506	Qy
2174		2118	Db
505	AspalaSeralaLeuAspIleArgMetGlyThrLeuLysArgLeu	491	Qy
2117		2058	Db
490	LeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHis :::	473	Qy
2057		1998	Db
472	PheProTrpGlnValLeuIleLeuGlyGlyThrThrAlaAlaGlyAlaLeu :::            :::            TGGCCCTGGCAGGTGAGCCTCCACGCCCTGGGCCAGGGCCACTTGTGTGGGGGCCTCGCTC	456	Qy
1997		1938	Db
455 1937	LeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLysAlaLysProGlyAsp	436 1878	Оу
435	TrpThrSerSerLysGlyGluLysSerLeuProValCysGluProValCysGly	418	Qy
1877		1833	Db
417	LysValAsnAspGlyLysTyrValCysGluAlaAspGlyPhe :::	404	Qy
1832		1779	Db
403	AC	384	Qy
1778		1725	Db
383	ValaspCysGlyProProAspAspLeuProSerGlyArgValGluTyrIleThrGlyPro	364	Oy
1724		1665	Db
363	AspGlySerTrpAspArgProMetProAlaCysSerIle	351	Qy
1664		1605	Db
1604	ACGTGCAAAAACCAGTTCTGCAAGCCCCTCTTCTGGGTCTGACACGACTGTCAACGACTGT	1545	Db

B

673

654

711

634 591

651

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; NAME/KEY: CDS
; LOCATION: (1)...(807)
US-09-981-123-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x US-09-981-123-1 (1-807)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Human Serine Protease FILE REFERENCE: 99-88C1
CURRENT APPLICATION NUMBER: US/09/981,123
CURRENT FILING DATE: 2001-10-16
PRIOR APPLICATION NUMBER: 60/167,038
PRIOR APPLICATION NUMBER: 1999-11-23
PRIOR APPLICATION NUMBER: 09/715,994
PRIOR APPLICATION NUMBER: 09/715,994
PRIOR FILING DATE: 2000-11-17
PRIOR FILING DATE: 2000-11-17
TWARE: FastSEQ for Windows Version 3.0
ID NO 1
NOTH: 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-981-123-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, Application US/09981123 Patent No. US20020151029A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Holloway, James L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAAACTACAACCACGATATAGCTCTGGTGCAGCAGCAGCAGCCTGTGCCCCCTGGGACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGTCCTGGATCCTCACAGCAGCTCATGTGCTGCGCTCCCAGCGTAGAGACACCACGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGlnLysHisAspAlaSerAla
                                                     IleGlyThrAlaSerGlyTrpGlyLeuThrGlnArgGlyPhe------
                                                                                                                                                                                           CACGTTATGCCTGTCTGCCTGCCAAGGCTTGAGCCTGAAGGC---CCGGCCCCCCACATG
                                                                                                                                                                                                                          AsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAspAsp 566
                                                                                                                                                                                                                                                                                                 AlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsnSer 546
                                                                                                                                                                                                                                                                                                                                                                                                           SerGluAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAspIle---ArgMetGlyThrLeuLysArgLeuSerProHisTyrThrGlnAlaTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGAGGACACTTCGAGAGTGCCAAATGACAAGTGGTTTGGGAGTGGGGCCCTGCTCTCT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCCAGGCGTGTACACAAGGCTCCCTGTAGTTCGGGACTGGATCAAA 2612
                          AGCAGTGGCACACGGACCTTGTCAGATGTCCTGCAGTATGTCAAGTTACCCGTGGTGCCT
                                                                                                                                                                                                                                                                                                                                                               TCGGGGGCAGTCAACAGCTCAGCTGCCCGAGTGGTGCTCCACCCAGACTTC---AACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATACCAGTCTCCAAGGAGCATGTCACCGTCTACCTGGGCTTGCATGATGTGCGAGACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.72e-35
446.50
53.01%
37.59%
11.88%
                                                                                                                                                                                                                                                                                                                                                                                                       ----ValPheIleHisGluGlyTyrThrHisAsp 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       807
100
41
92
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 494
                                                                                                          474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PACIENT NO. CLARACTION:

APPLICANT: PLORMAN, GREGORY

APPLICANT: WHYTE, DAVID

APPLICANT: CARREPEEL, SEAN

CHARYDCZAK, GLEN

APPLICANT: CHARYDCZAK, GLEN
                                                                                                                                                 Вþ
                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                       Ş
                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 21
US-09-888-615-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                     US-09-874-198-2 (1-686) x US-09-888-615-54 (1-2409)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-888-615-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Ver.
SEQ ID NO 54
LENGTH: 2409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 54, Application US/09888615
Patent No. US20020064856A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: CHARYDCZAK, GLEN
APPLICANT: MANNING, GERARD
APPLICANT: SUDARSANA, SUCHA
TITLE OF INVENTION: NOVEL PROTEASES
FILE REFERENCE: 038602/1214
CURRENT APPLICATION NUMBER: US/09/888,615
CURRENT FILING DATE: 2001-66-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/214,047 PRIOR FILING DATE: 2000-06-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
                                                                                                                                                                                                                                   1078
                                                                                                                                                                                                                                                                                                                                                         194 GlyGluLeuSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyr 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    674 AsnTyrIleProTrpIle 679
                                                                                                                                                                                                                                                                                                                   GGGGTCCTCAGCACCCCGTACTTCCCCCAGCTACTACTCGCCCCAAACCCACTGCTCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATTACGTGGACTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyAlaLeuValPheLeuAspSerGluThrGluArgTrpPheValGlyGlyIleValSer
                   LeuProHisArgIleGluThrLysSerAsnThr---ValThrIleThrPheValThrAsp 281
                                                                ACGATCCAGAACAGGAGG------
                                                                                                                                                                                                                                 CACCTCACGGTGCCCTCTCTGGACTACGGCTTGGCCCTCTGGTTTGATGCCTATGCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TrpGlySer---MetAsnCysGlyGluAlaGlyGlnTyrGlyValTyrThrLysValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGGCCTTTGTCATCTTTGATGACTTGAGCCAGCGCTGGGTGGTGCCAAGGCCTGGTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AsnMetLeuCysAlaGlyLeuGluSerGlyGlyLysAspSerCysArgGlyAspSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACGCTGAGTGCAAAACTAGCTATGAGTCCCGCTCG----GGCAATTACAGCGTCACGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisGlnLysCysThrAlaAlaTyrGluLysProProTyrProArgGlySerValThrAla
                                                                                                                                               AGGAGGCAGAAGTATGATTTGCCG------TGCACCCCAGGGCCAGTGG 1179
                                                                                                                                                                                                                                                                         SerIle-----SerLeuGluGluGlyPheSerValIleLeuAspPheVal-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACATGTTCTGTGCTGCCTACTACGAGGGCGGCGAAAGACACGTGCCCTTGGAGATAGCGGT
                                                                                                     LysIleGlnThrAspArgGluGluHisGlyProPheCysGly-----LysThr 262
                                                                                                                                                                                       -----GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                               3.31e-34
444.00
45.00%
29.42%
11.81%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            789
                                                             -----CTGTGTGGCTTGCGCATCCTGCAGCCC 1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches:
Conservative:
:: = = =
```

망 QΥ 밁

464 61

Ş

Score: Pred. No.:

8

475

181 495 121

δõ В Ş 망 δõ В Ş 밁

> 246 1137

228

밁 20 В

```
DЬ
                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                      δÃ
                                                                          В
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
2185
                                                                                                                                                                                                                                  2017
                                                                                                                                                                                                                                                                                                              1957
                                                                            2131
                                                                                                                                                        2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1285
                                                                                                                                                                                                                                                                        546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1840
                                      605
                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                              507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGln 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGCAGG---GACGGC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCys 430
                                                                                                                                                      CTGCACTGCTGGATTACGGGCTGGGGCGCCCTTGCGCGAGGGCGCCCCATCAGCAACGCT
                                                                                                                                                                            AspIleGlyThrAlaSerGlyTrpGly---LeuThrGlnArgGlyPheLeuAlaArgAsn
                                                                                                                                                                                                                                                      AspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsn
                                                                                                                                                                                                                                                                                                                                                                                      TGGCCTGGAGAGGTGTCCTTCAAGGTGAGCCGCCTGCTCCTGCACCCG---TACCACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCATGGCCTCCACGGTGCTGTGGACCGTGTTCCTGGGCAAGGTGTGGCAGAACTCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysHisAspAlaSerAlaLeu---AspIleArgMetGlyThrLeuLysArgLeuSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCTCCGAGGGTGAGTGGCCATGGCAGGCCAGCCTCCAGGTTCGGGGTCGACACATCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaLysProGlyAspPheProTrpGln-----ValLeuIleLeuGlyGlyThrThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAC-----TGTGGCCTCCAGGGCCCCTCCAGC-----CGCATTGTTGGTGGAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACATGCATCTCACTGCCC-----AAGGTCTGTGAT---GGGCAGCCTGATTGTCTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGGTCAAGGAC------TGCCCCAACGGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCTCCCTCACCGGGCCCGGTGTGCGGGTGCACTATGGCTTGTACAACCAGTCGGACCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluSerGlyAspHisThrGlyTrpLysIleHisTyr----ThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACGCCGAGAGGATCCCCGTGGTGGCCACGGCCGGGATCACCATCAACTTCACCTCCCAG
                                  {\tt ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly}
                                                                        CTGCAGAAAGTGGATGTGCAGTTGATCCCACAGGACCTGTGCAGCGAGGCCTAT-----
                                                                                                          LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                GCCGCCGTGCGCCCGTCTGCCTGCCCGCGCGC----TCCCACTTCTTCGAGCCCGGC
                                                                                                                                                                                                                                                                                                            GAGGACAGCCATGACTACGACGTGGCGCTGCTGCAGCTCGACCACCCGGTGGTGCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                        ---ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGGGGGCCCTCATCGCTGACCGCTGGGTGATAACAGCTGCCCACTGCTTCCAGGAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCCAGTGTGAGGACCGGAGCTGCGTGAAGAAGCCCAACCCGCAGTGTGATGGGCGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TyrSerCysGluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyr 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACGGCAGCGATGAAGAGCAGTGCCAGGAAGGGGGTGCCATGT-----GGGACATTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuProLeuLysSerPheThrAlaValCysGln-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuGlnGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCCCTGGAGAGTTCCTCTGTTCTGTGAATGGACTCTGTGTCCCT-----GCCTGTGAT 1398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysProTyrPro---MetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----CTGGATGAGAGAAACTGCGTTTGCAGAGCCACATTCCAGTGCAAAGAGGACAGC
· CGCTACCAGGTGACGCCACGCATGCTGTGTGCCGGCTACCGCAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGGATGAGGAGCAC - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -LysAspGlySer 353
                                                                                                                                                                                                                                                                                                                                                545
                                                                                                                                                                                                                                                                                                                                                                                      . 1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1344
2232
                                    624
                                                                                                                                                    2130
                                                                                                                                                                                                                              2070
                                                                                                                                                                                                                                                                      565
                                                                                                                                                                                                                                                                                                          2016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
```

Š

QΥ

Qy

Qy

B

```
RESULT 22
US-09-978-295A-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 09/918585
PRIOR APPLICATION NUMBER: 00/062250
PRIOR PILING DATE: 1997-10-17
PRIOR PILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/064249
PRIOR FILING DATE: 1997-11-31
PRIOR APPLICATION NUMBER: 60/065311
PRIOR APPLICATION NUMBER: 60/06364
PRIOR APPLICATION NUMBER: 60/06364
PRIOR APPLICATION NUMBER: 60/077450
PRIOR APPLICATION NUMBER: 60/077450
PRIOR APPLICATION NUMBER: 60/077450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 168, Application US/09978295A Patent No. US20020156006A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
           PRIOR PRIOR
                                                                                                                                                                           PRIOR
                                           PRIOR
                                                                                                                                                          PRIOR
                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/978
CURRENT FILING DATE: 2001-10-15
                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Acids Encoding FILE REFERENCE: P2630P1C11
                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same
                                                                                                           PRIOR
                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          625
                                           APPLICATION NUMBER: FILING DATE: 1998-0:
                                                                                                           APPLICATION NUMBER: 60/
FILING DATE: 1998-03-11
           APPLICATION FILING DATE
                                                                           APPLICATION NUMBER: FILING DATE: 1998-0:
                                                                                                                                           APPLICATION NUMBER: 60/077632 FILING DATE: 1998-03-11
                                                                                                                                                                           FILING DATE: 1998-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCGCTGGTTCCTGGCGGGGCTGGTCAGCTGGGGC---CTGGGCTGTGGCCGGCCTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAAGGATGCCTGTCAGGGTGACTCAGGTGGTCCGCTGGTG - - - TGCAAGGCACTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ashkenazi, Avi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stewart, Timothy A. Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Godowski,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gerber,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fong,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Williams, P. Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gurney, Austin L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Grimaldi, J. Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Goddard,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shelton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roy, Margaret Ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gerritsen, Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ferrara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eaton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Paoni, Nicholas F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kljavin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Baker Kevin P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    James;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vin, Ivar J.
Sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wei-Qiang
                            NUMBER:
NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dan
                                                                           1998-03-1
                                             1998-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hanspeter
               .998-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Napoleon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Paul
                            60/078004
                                                            60/077791
                                                                                            60/077649
                                                                                                                          60/077641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          644
```

R FILING DATE: R APPLICATION | R FILING DATE:

DATE:

NUMBER: 60

60/078910 60/078936

1998-03-20

APPLICATION NUMBER: 60/1

APPLICATION NUMBER: 60/078939 FILING DATE: 1998-03-20

FILING DATE: 1998-03-20 APPLICATION NUMBER:

APPLICATION NUMBER:

APPLICATION NUMBER: FILING DATE:

момвЕR: 60/079664 1998-03-27

1998-03-

60/079656 60/079294

```
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OR AFFILING DATE: 1998-04-25
OR APPLICATION NUMBER: 60/083558
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083559
OR APPLICATION NUMBER: 60/08359
DR FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/084600
R FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/084627
DR APPLICATION NUMBER: 60/084627
DR FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/08533
DR FILING DATE: 1998-05-13
DR APPLICATION NUMBER: 60/08538
DR FILING DATE: 1998-05-13
DR APPLICATION NUMBER: 60/08532
DR APPLICATION NUMBER: 60/085582
DR APPLICATION NUMBER: 60/085689
DR APPLICATION NUMBER: 60/085590
DR APPLICATION NUMBER: 60/085697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DATE: 1998-04-30

PR APPLICATION NUMBER: 60/084366

PR FILING DATE: 1998-05-05

PR APPLICATION NUMBER: 60/084414

PR FILING DATE: 1998-05-06

PR FILING DATE: 1998-05-06

PR FILING DATE: 1998-05-06

PR FILING DATE: 1998-05-07

PR FILING DATE: 1998-05-07

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639

PR FILING DATE: 1998-05-07

PR APPLICATION NUMBER: 60/084640

PR FILING DATE: 1998-05-07

PR APPLICATION NUMBER: 60/084699

PR APPLICATION NUMBER: 60/084598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OR FILING DATE: 1998-04-29

R APPLICATION NUMBER: 60/083499

OR FILING DATE: 1998-04-29

OR APPLICATION NUMBER: 60/083545

OR FILING DATE: 1998-04-29

OR APPLICATION NUMBER: 60/083554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OR APPLICATION NUMBER: 60/082797
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082796
OR APPLICATION NUMBER: 60/083336
OR APPLICATION NUMBER: 60/083322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R APPLICATION NUMBER: (
R FILING DATE: 1998-04
R APPLICATION NUMBER: (
R FILING DATE: 1998-04
R APPLICATION NUMBER: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 1998-04-29
APPLICATION NUMBER: 60/
FILING DATE: 1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER: 60/084598
1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1998-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-04-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/083742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/083496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/083495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/083392
```

Alignment Pred. No.: Scores:

PRIOR PRIOR PRIOR

OR FILING DATE: 1998-04-08

RAPPLICATION NUMBER: 60/081203

DR FILLNG DATE: 1998-04-09

PR APPLICATION NUMBER: 60/081229

DR FILING DATE: 1998-04-09

DR APPLICATION NUMBER: 60/081955

DR APPLICATION NUMBER: 60/081817

DR APPLICATION NUMBER: 60/081817

DR APPLICATION NUMBER: 60/081819

PRIOR PRIOR

NUMBER: 60/081819: 1998-04-15

PRIOR

PRIOR PRIOR PRIOR PRIOR

FILING

DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/081952
DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/081838
DR FILING DATE: 1998-04-15
DR APPLICATION NUMBER: 60/082568
DR FILING DATE: 1998-04-21
DR APPLICATION NUMBER: 60/082569
DR FILING DATE: 1998-04-21
OR APPLICATION NUMBER: 60/082704
DR FILING DATE: 1998-04-22
DR APPLICATION NUMBER: 60/082804

PRIOR PRIOR PRIOR IOR IOR

R APPLICATION NUMBER: 60/081
OR ETILING DATE: 1998-04-08
OR ETILING DATE: 1998-04-08
OR APPLICATION NUMBER: 60/08
OR APPLICATION NUMBER: 60/08

60/081195 60/081071 PRIOR

FILING DATE: 1998-04-01
APPLICATION NUMBER: 60/081070
FILING DATE: 1998-04-08
APPLICATION NUMBER: 60/081049

APPLICATION NUMBER: APPLICATION NUMBER: 60/ FILING DATE: 1998-04-01

60/080333 60/080328 60/080327 TOR TOR TOR TOR

R FILING DATE: 1998-03-31

R APPLICATION NUMBER: 60/080107

R FILING DATE: 1998-03-31

R APPLICATION NUMBER: 60/080165

R FILING DATE: 1998-03-31

R APPLICATION NUMBER: 60/080194

FILING DATE: 1998-03-31 APPLICATION NUMBER: 60/ FILING DATE: 1998-04-01

R FILING DATE: 1998-03
R APPLICATION NUMBER:
R FILING DATE: 1998-03
R FILING DATE: 1998-03

1998-03-30

60/080105 60/079923

APPLICATION NUMBER: 60/0 FILING DATE: 1998-03-30 APPLICATION NUMBER: 60/ FILING DATE: 1998-03-27

60/079920

60/079786

OR FILING DATE: 1998-03-27

R APPLICATION NUMBER: 60/079689

R FILING DATE: 1998-03-27

OR APPLICATION NUMBER: 60/079663

OR FILING DATE: 1998-03-27

OR APPLICATION NUMBER: 60/079728

R APPLICATION NUMBER: 60/079728

PRIOR PRIOR

4.9e-34 444.00

Length: Matches:

```
δÃ
                                                                                                                                        밁
                                                                                                                                                                             QY
                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                   Дb
                    Qγ
                                                             В
                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-874-198-2 (1-686) x US-09-978-295A-168 (1-3143)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                       1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1297
                                                                                                                                                                                                                                                              431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                       394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214 SerIle-----SerLeuGluGluGlyPheSerValIleLeuAspPheVal-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 194 GlyGluLeuSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyr
                                                                                                                                                                    AlaLysProGlyAspPheProTrpGln-----ValLeuIleLeuGlyGlyThrThrAla
                                                                                                                                                                                                                                              GluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLys
                                                                                                                                                                                                                                                                                                                                   ValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCys 430
LysHisAspAlaSerAlaLeu---AspIleArgMetGlyThrLeuLysArgLeuSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGln
:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluSerGlyAspHisThrGlyTrpLysIleHisTyr----ThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGAGGCAGAAGTATGATTTGCCG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCTCACGGTGCCCTCTCTGGACTACGGCTTGGCCCTCTGGTTTGATGCCTATGCACTG
                                                           GGGGGGGCCCTCATCGCTGACCGCTGGGTGATAACAGCTGCCCACTGCTTCCAGGAGGAC
                                                                                               AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGln
                                                                                                                                      TCCTCCGAGGGTGAGTGGCCATGGCCAGGCCTCCAGGTTCGGGGTCGACACATCTGT
                                                                                                                                                                                                                     GAC-----TGTGGCCTCCAGGGCCCCTCCAGC-----CGCATTGTTGGTGGAGCTGTG
                                                                                                                                                                                                                                                                                                   GACTGCAGG---GACGGC-----TCGGATGAGGAGCAC-----
                                                                                                                                                                                                                                                                                                                                                                              TTCCAGTGTGAGGACCGGAGCTGCGTGAAGAAGCCCCAACCCGCAGTGTGATGGGCGGCCC 1710
                                                                                                                                                                                                                                                                                                                                                                                                                TyrSerCysGluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyr 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACGGCAGCGATGAAGAGCAGTGCCAGGAAGGGGGTGCCATGT-----GGGACATTCACC 1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACATGCATCTCACTGCCC-----AAGGTCTGTGAT---GGGCAGCCTGATTGTCTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuProLeuLysSerPheThrAlaValCysGln-------LysAspGlySer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGGTCAAGGAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCCCTGGAGAGTTCCTCTGTTCTGTGAATGGACTCTGTGTCCCT-----GCCTGTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysProTyrPro---MetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCTCCCTCACCGGGCCCGGTGTGCGGGTGCACTATGGCTTGTACAACCAGTCGGACCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACGCCGAGAGGATCCCCGTGGTGGCCACGGCCGGGATCACCATCAACTTCACCTCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGATCCAGAACAGGAGG-------CTGTGTGGCTTGCGCATCCTGCAGCCC 1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysIleGlnThrAspArgGluGluHisGlyProPheCysGly------LysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCGTCCTCAGCACCCCGTACTTCCCCCAGCTACTACTCGCCCCCAAACCCCACTGCTCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----CTGGATGAGAGAAACTGCGTTTGCAGAGCCACATTCCAGTGCAAAGAGGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuProHisArgIleGluThrLysSerAsnThr---ValThrIleThrPheValThrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45.00%
29.42%
11.81%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCCCAACGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCACCCAGGGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
200
86
31
                                                                                                                                                                                                                                                                                                   -TGT
                                                           1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1356
                                                                                                 488
                                                                                                                                        1851
                                                                                                                                                                               468
                                                                                                                                                                                                                                                            450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1149
                                                                                                                                                                                                                                                                                                   1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 262
```

:

```
Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-978-697-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. US20020169284A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 168,
                                                 APPLICANT: APPLICANT:
                                                                                  APPLICANT:
                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                    APPLICANT:
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: P2630P1C27
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Ashkenazi, Avi
                                                                                                                  APPLICANT:
                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                      APPLICANT
                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2419 TACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1912 AGCATGGCCTCCACGGTGCTGTGGACCGTGTTCCTGGGCAAGGTGTGGCAGAACTCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSer :::|||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGCTGGTTCCTGGCGGGGCTGGTCAGCTGGGGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAAGGATGCCTGTCAGGGTGACTCAGGTGGTCCGCTGGTG---TGCAAGGCACTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGGACAGCCATGACTACGACGTGGCGCTGCTGCAGCTCGACCCGGTGGTGCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GluArgTrpPheValGlyGlyIleValSerTrpGlySerMetAsnCysGlyGluAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCAGAAAGTGGATGTGCAGTTGATCCCACAGGACCTGTGCAGCCGAGGCCTAT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGCCGTGCGCCCCGTCTGCCCTGCCCGCGCGC-----TCCCACTTCTTCGAGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGCCTGGAGAGGTGTCCTTCAAGGTGAGCCGCCTGCTCCTGCACCCG---TACCACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCACTGCTGGATTACGGGCTGGGGCCCTTGCGCGAGGGCCGCCCCATCAGCAACGCT 2202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAsp
::: ||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsn
                                                                                                                                                                                                             Gurney, Austin L.
Hillan, Kenneth J
Kljavin, Ivar J.
                                               Williams, P. Mickey Wood, William I.
                                                                                Stewart, Timothy A. Tumas, Daniel
                                                                                                                                                                                                                                                                    Godowski, Paul J.
Grimaldi, J. Christopher
                                                                                                                                                                                                                                                                                                                                                      Gao,
                                                                                                                                                                                                                                                                                                                                                                  Fong,
                                                                                                               Roy, Margaret Ann
Shelton, David L.
                                                                                                                                                                                                                                                                                                    Goddard, Audrey
                                                                                                                                                                                                                                                                                                                    Gerritsen, Mary E.
                                                                                                                                                                                                                                                                                                                                     Gerber,
                                                                                                                                                                                                                                                                                                                                                                                     Ferrara, Na
Filvaroff,
                                                                                                                                                   Paoni, Nicholas F
                                                                                                                                                                  Pan, James;
                                                                                                                                                                                                                                                                                                                                                                                                                     Eaton, Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                   Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baker Kevin P.
Botstein, David
                                                                                                                                                                                   Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09978697
                                                                                                                                                                                              avin, Ivar
, Sophia S
                                                                                                                                                                                                                                                                                                                                                    Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                      Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -CGCTACCAGGTGACGCCACGCATGCTGTGTGCCGGCTACCGCAAGGGC
                                                                                                                                                                                                                                                                                                                                   Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                      Napoleon
                                                                                                                                                                                                                                                                                                                                                                                     Ellen
                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -CTGGGCTGTGGCCGGCCTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   565
```

CURRENT CURRENT PRIOR AP PRIOR FI

PRIOR

4 4	: 1998-04-01 NUMBER: 60,	: 1998-04-01 NUMBER: 60/	NUMBER	FILING DATE: 1998-04-01 APPLICATION NUMBER: 60/080333	DATE: 1998-04-01 CATION NUMBER: 60/080328	ATION NUMBER: 60/08032	ATION NUMBER: 60/08019	EXATE: 1998-03-31	TATION NUMBER: 60/08010	ATION NUMBER: 60/08010:	CATION NUMBER: 60/07992:	CATION NUMBER: 60/07992	CATION NUMBER: 60/07978	CATION NUMBER: 60/07972: DATE: 1998-03-27	ATION NUMBER: 60/0/966. DATE: 1998-03-27	DATE: 1998-03-27	DATE: 1998-03-27	IOR FILING DATE: 1998-03-26	DATE: 1998-03-25	DATE: 1998-03-20	DATE: 1998-03-20	DATE: 1998-03-20	DATE: 1998-03-20	DATE: 1998-03-13	FILING DATE: 1998-03-12	NUMBER: 60/07/64 : 1998-03-11	7764	107764	7763	7745	6636	R APPLICATION NUMBER: 60/065311 R FILING DATE: 1997-11-13	0/064	DATE: 1997-10-17		0-16
n 1	9	0	4	ω	8	7	4	(J	7		S	0	0	æ	, L	. w	4. (	<b>.</b>		. 10	0	, o	י ס	عب ا	. }-		P +	<u>, r</u>	2	0	4	1	9	C	o Un	/978,697
; PRIO ;	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	PRIC	; PRIC	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIC	; PRIO	; PRIO	PRIO	; PRIO	; PRIO	; PRIO	PRIO	; PRIO	; PRIO	; PRIO	; PRIO	; PRIO				
; PRIOR APPLICATION ; PRIOR FILING DATE ; PRIOR APPLICATION	PRIOR APPLICATION PRIOR FILING DATE	PRIOR APPLICATION PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	; PRIOR APPLICATION ; PRIOR FILING DATE	FILING	; PRIOR APPLICATION ; PRIOR FILING DATE	FILING	FILING	FILING	FILING APPLICA	APPLICA	APPLICA	APPLICA	APPLICA	FILING APPLICA	FILING APPLICA	FILING	APPLICA	APPLICAT	APPLICAT	APPLICAT	APPLICAT	APPLICAT	APPLICAT	APPLICAT	; PRIOR APPLICATION ; PRIOR FILING DATE	FILING D	FILING D	R FILING D R APPLICAT	APPLICAT	R FILING I	; PRIOR FILING DATE ; PRIOR APPLICATION
; PRIOR APPLICATION NUMBER: 60/084627 ; PRIOR FILING DATE: 1998-05-07 ; PRIOR APPLICATION NUMBER: 60/084643	PRIOR APPLICATION NUMBER PRIOR FILING DATE: 1998-	PRIOR APPLICATION NUMBER PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	; PRIOR APPLICATION NUMBER ; PRIOR FILING DATE: 1998-	FILING		FILING		FILING	FILING APPLICA	APPLICATION N	APPLICA	APPLICA		FILING APPLICA	FILING DATE: APPLICATION	FILING	APPLICATION	APPLICATION	APPLICATION N	APPLICATION NUM	APPLICATION	APPLICATION	APPLICATION N	APPLICATION NUM	; PRIOR APPLICATION NUMBER: 60 ; PRIOR FILING DATE: 1998-04-1	FILING DATE	FILING DATE	FILING I	APPLICATION N	R FILING DATE:	20 20

PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR

PRIOR PRIOR

```
Ş
                                     р
                                                                  Qy
                                                                                                         B
                                                                                                                                         QΥ
                                                                                                                                                                                망
                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
DB:
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-874-198-2 (1-686) x US-09-978-697-168 (1-3143)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                  1471
                                                                                                                                                                                                                                                      1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OR APPLICATION NUMBER: 60/085582
OR FILING DATE: 1998-05-15
OR FILING DATE: 1998-05-15
OR APPLICATION NUMBER: 60/085689
OR FILING DATE: 1998-05-15
OR APPLICATION NUMBER: 60/085679
OR APPLICATION NUMBER: 60/085579
OR APPLICATION NUMBER: 60/085579
OR FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OR APPLICATION NUMBER: 60/085339
OR FILLING DATE: 1998-05-13
OR APPLICATION NUMBER: 60/085338
OR FILLING DATE: 1998-05-13
OR APPLICATION NUMBER: 60/085323
OR APPLICATION NUMBER: 60/085323
OR FILLING DATE: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/085580 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/085704 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/085573 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                           CysProTyrPro---MetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGATCCAGAACAGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCTCACGGTGCCCTCTGGACTACGGCTTGGCCCTCTGGTTTGATGCCTATGCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyGluLeuSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyr
SerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGln
                                   ACATGCATCTCACTGCCC-----AAGGTCTGTGAT---GGGCAGCCTGATTGTCTC---
                                                                  LeuProLeuLysSerPheThrAlaValCysGln------LysAspGlySer
                                                                                                                                                                                GGGGTCAAGGAC-----
                                                                                                                                                                                                               IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis
                                                                                                                                                                                                                                                   TGCCCTGGAGAGTTCCTCTGTTGTGAATGGACTCTGTGTCCCT-----GCCTGTGAT
                                                                                                                                                                                                                                                                                                                         ATCTCCCTCACCGGGCCCGGTGTGCGGGTGCACTATGGCTTGTACAACCAGTCGGACCCC
                                                                                                                                                                                                                                                                                                                                                          GluSerGlyAspHisThrGlyTrpLysIleHisTyr----ThrSerThrAlaGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                TACGCCGAGAGGATCCCCGTGGTGGCCACGGCCGGGATCACCATCAACTTCACCTCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuProHisArgIleGluThrLysSerAsnThr---ValThrIleThrPheValThrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysIleGlnThrAspArgGluGluHisGlyProPheCysGly------LysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGAGGCAGAAGTATGATTTGCCG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerIle-----SerLeuGluGluGlyPheSerValIleLeuAspPheVal-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCGTCCTCAGCACCCCGTACTTCCCCCAGCTACTACTCGCCCCAAACCCACTGCTCCTGG
                                                                                                         -- CTGGATGAGAGAAACTGCGTTTGCAGAGCCACATTCCAGTGCAAAGAGGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER: 60/085697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4.9e-34
444.00
45.00%
29.42%
11.81%
                                                                                                                                                                                -----TGCCCCAACGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----TGCACCCAGGGCCAGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·-·--CTGTGTGGCTTGCGCATCCTGCAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3143
153
81
200
86
31
                                                                                                                                                                                                                 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1296
 393
                                   1596
                                                                      373
                                                                                                         1548
                                                                                                                                             353
                                                                                                                                                                                                                                                   1470
                                                                                                                                                                                                                                                                                                                         1416
                                                                                                                                                                                                                                                                                                                                                                                                1356
                                                                                                                                                                              1494
                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228
```

```
Sequence 168, Application US/09978192A
Patent No. US20020177553Al
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi
APPLICANT: Baker Kevin P.
APPLICANT: Botstein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan
                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                        US-09-978-192A-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                              2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1912
                                                                                                                                                                                                                                        2419 TACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       394
                                                                                                                                                                                                                                                                GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSer :::||||||||||||||
                                                                                                                                                                                                                                                                                                                                              AAGAAGGATGCCTGTCAGGGTGACTCAGGTGGTCCGCTGGTG---TGCAAGGCACTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaLysProGlyAspPheProTrpGln-----ValLeuIleLeuGlyGlyThrThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLys 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACGGCAGCGATGAAGAGCAGTGCCAGGAAGGGGTGCCATGT-----GGGACATTCACC
                                                                                                                                                                                                                                                                                                                          GGCCGCTGGTTCCTGGCGGGGCTGGTCAGCTGGGGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCAGAAAGTGGATGTGCAGTTGATCCCACAGGACCTGTGCAGCGAGGCCTAT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspIleGlyThrAlaSerGlyTrpGly---LeuThrGlnArgGlyPheLeuAlaArgAsn ::::|||||||||| ||| ::: ||| :::::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCGCCGTGCCCTGCCTGCCCGCCGCC----TCCCACTTCTTCGAGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAsp
::: ||||:::|||||||| :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGACAGCCATGACTACGACGTGGCGCTGCTGCAGCTCGACCACCCGGTGGTGCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGCCTGGAGAGGTGTCCTTCAAGGTGAGCCGCCTGCTCCTGCACCCG----TACCACGAA 2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysHisAspAlaSerAlaLeu---AspIleArgMetGlyThrLeuLysArgLeuSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGGGGGCCCTCATCGCTGACCGCTGGGTGATAACAGCTGCCCACTGCTTCCAGGAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAC-----TGTGGCCTCCAGGGCCCCTCCAGC-----CGCATTGTTGGTGGAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGCAGG - - - GACGGC - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCys 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------CGCTACCAGGTGACGCCACGCATGCTGTGTGCCGGCTACCGCAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCACTGCTGGATTACGGGCTGGGGCGCCTTGCGCGAGGGCCGCCCCATCAGCAACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCATGGCCTCCACGGTGCTGTGGACCGTGTTCCTGGGCAAGGTGTGGCAGAACTCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTCCGAGGGTGAGTGGCCATGGCAGGCCAGCCTCCAGGTTCGGGGTCGACACCATCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCCAGTGTGAGGACCGGAGCTGCGTGAAGAAGCCCCAACCCGCAGTGTGATGGGCGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrSerCysGluGluThrPheTyrThrMetLysValAsn-----AspGlyLysTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TCGGATGAGGAGCAC-
                                                                                                                                                                                                                                                                                                                          -CTGGGCTGTGGCCGGCCTAAC
                                                                                                                                                                                                                                        2478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1710
                                                                                                                                                                                                                                                                                                                          2418
                                                                                                                                                                                                                                                                                                                                                                                                              2361
                                                                                                                                                                                                                                                                                                                                                                                                                                                        644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       506
```

.998-03-3

60/080107 60/080105 60/079923

```
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: P2630P1C9
CURRENT APPLICATION NUMBER: US/09/978,192A
CURRENT FILING DATE: 2001-10-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
PRIOR
                                                                                                                                                                                                                                                                                               PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PLICANT
         DR FILING DATE: 1998-03-27

R APPLICATION NUMBER: 60/079663

DR FILING DATE: 1998-03-27

DR APPLICATION NUMBER: 60/079728

DR FILING DATE: 1998-03-27

DR APPLICATION NUMBER: 60/079786

DR FILING DATE: 1998-03-27

DR APPLICATION NUMBER: 60/079920

DR FILING DATE: 1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                  DR FILING DATE: 1998-03-20
PR APPLICATION NUMBER: 60,077
PR FILING DATE: 1998-03-20
PR APPLICATION NUMBER: 60,077
PR FILING DATE: 1998-03-20
PR APPLICATION NUMBER: 60,070
PR FILING DATE: 1998-03-20
PR APPLICATION NUMBER: 60,070
PR APPLICATION NUMBER: 60,070
PR APPLICATION NUMBER: 60,070
PR FILING DATE: 1998-03-25
PR FILING DATE: 1998-03-25
                                                                                                                                                                                                                                                                                           R APPLICATION NUMBER: (R FILING DATE: 1998-03 R FILING DATE: 1998-03 R APPLICATION NUMBER: (R APPLICATION NUMBER: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/
FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 1998-0: APPLICATION NUMBER: FILING DATE: 1998-0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/
FILING DATE: 1997-11-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/
FILING DATE: 1997-11-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/
FILING DATE: 1997-10-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/078004 FILING DATE: 1998-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 1997-1 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60/
FILING DATE: 1997-11-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shelton, David L. Stewart, Timothy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kuo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Williams, P. Mickey Wood, William I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Godowski, Paul J.
Grimaldi, J. Christopher
Gurney, Austin L.
Hills Vestin L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gerritsen, Mary E. Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kljavin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gurney, Austin L.
Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gerber,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Paoni, Nicholas F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fong,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Napier, Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  James;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Margaret Ann
ton, David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sophia S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER: 60/077791
1998-03-12
                                                                                                                                                                                                                                                                                                                                                                                          1998-03-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001-07-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hanspeter
                                                                                                                                                                                                                                                                                                                         UMBER: 60/079664
1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-60-866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Napoleon
f, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-10-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60/066364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09/918585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲.
                                                                                                                                                                                                                                                                                               60/079689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/078939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60/078910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60/078886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/077649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/077641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/077632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/077450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/065311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/064249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/062250
                                                                                                                                                                                                                                                                                                                                                                                                                       60/079656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/079294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/078936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
PRIOR
PRIOR
                                                                                                                                                            PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                        PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                      PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OR APPLICATION NUMBER: 60/080194
OR APPLICATION NUMBER: 60/08037
OR APPLICATION NUMBER: 60/080328
OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/080328
OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/08033
OR FILING DATE: 1998-04-01
OR APPLICATION NUMBER: 60/08033
OR FILING DATE: 1998-04-08
OR APPLICATION NUMBER: 60/08104
OR APPLICATION NUMBER: 60/08104
OR APPLICATION NUMBER: 60/08107
OR FILING DATE: 1998-04-08
OR APPLICATION NUMBER: 60/08107
OR FILING DATE: 1998-04-08
OR APPLICATION NUMBER: 60/081203
OR FILING DATE: 1998-04-08
OR APPLICATION NUMBER: 60/081203
OR FILING DATE: 1998-04-09
OR APPLICATION NUMBER: 60/081203
OR APPLICATION NUMBER: 60/081203
OR APPLICATION NUMBER: 60/081819
OR APPLICATION NUMBER: 60/081817
OR APPLICATION NUMBER: 60/081819
OR APPLICATION NUMBER: 60/081830
OR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                              OR ETLING DATE: 1998-04-21
OR APPLICATION NUMBER: 60/082569
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082704
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082804
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082700
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082797
OR FILING DATE: 1998-04-22
OR APPLICATION NUMBER: 60/082796
OR FILING DATE: 1998-04-23
OR APPLICATION NUMBER: 60/083336
OR FILING DATE: 1998-04-27
OR APPLICATION NUMBER: 60/083322
OR APPLICATION NUMBER: 60/08332
OR FILING DATE: 1998-04-29
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083495
OR APPLICATION NUMBER: 60/083495
OR APPLICATION NUMBER: 60/083495
OR APPLICATION NUMBER: 60/083496
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083496
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083496
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083496
OR APPLICATION NUMBER: 60/083499
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083545
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083554
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083558
OR FILING DATE: 1998-04-29
OR APPLICATION NUMBER: 60/083559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION N
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/
FILING DATE: 1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER: 60/080165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-03-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-03-3
```

FILING

1998-04-29 NUMBER: 60/ 1998-04-29

60/083500 4-29 60/083742

FILING DATE: 1998-0 APPLICATION NUMBER:

```
δÃ
                                                                                QУ
                                                                                                               В
                                                                                                                                        δÃ
 В
                                                      В
                                                                                                                                                                       Db
                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                             US-09-874-198-2 (1-686) x US-09-978-192A-168 (1-3143)
                                                                                                                                                                                                                                                                                                                                              Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RIOR
RIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RIOR
 1252
                                                        1210
                                                                                                                                                                         1090
                                                                                                                                                                                                                                                                                  t Similarity:
ocal Similarity:
                                                                                                                                                                                                                                                                         Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-U5-U,
APPLICATION NUMBER: 60/084600
TOTAL DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 60 FILING DATE: 1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/085338 FILING DATE: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/085339 FILING DATE: 1998-05-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/084643 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1998-05-07
APPLICATION NUMBER: 60/084627
FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/085579 FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/085700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-05-13
APPLICATION NUMBER: 60/085582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/085323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/084640 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/084639 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60/084637 FILING DATE: 1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/084414 FILING DATE: 1998-05-06
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/085573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/085689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/084441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/084366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 1998-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                            CACCTCACGGTGCCCTCTCGGACTACGGCTTGGCCCTCTGGTTTGATGCCTATGCACTG
                                                                                                                                           Serile-----
                                                                                                                                                                                                 GlyGluLeuSerSerProGluTyrProArgProTyrProLysLeuSerSerCysThrTyr
 ACGATCCAGAACAGGAGG -
                         LysIleGlnThrAspArgGluGluHisGlyProPheCysGly-----
                                                        AGGAGGCAGAAGTATGATTTGCCG
                                                                                -----GluSerPheAspValGluThrHisProGluThrLeuCysProTyrAspPheLeu
                                                                                                                                                                    GGCGTCCTCAGCACCCCGTACTTCCCCCAGCTACTACTCGCCCCCAAACCCCACTGCTCCTGG
                                                                                                                                                                                                                                                                                                                                                                                       NUMBER: 60/085704: 1998-05-15
                                                                                                                                                                                                                                                                                                                                                                          NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       иомыЕR: 60/084598
1998-05-07
                                                                                                                                                                                                                                                                                                                                                                                                                   1998-05-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1998-05-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1998-05-05
                                                                                                                                                                                                                                                                      4.9e-34
444.00
45.00%
29.42%
11.81%
                                                                                                                                       -SerLeuGluGlyPheSerValIleLeuAspPheVal-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/085580
                                                                                                                                                                                                                                                                                                                                                                          60/085697
                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
-- CTGTGTGGCTTGCGCATCCTGCAGCCC
                                                                                                                                                                                                                                                       3143
153
81
200
86
31
                          ---LysThr
                          262
                                                      1251
                                                                                                            1209
                                                                                                                                                                    1149
                                                                                   246
                                                                                                                                        228
                                                                                                                                                                                                  213
```

```
Ş
                                         В
                                                                             δã
                                                                                                                      В
                                                                                                                                                          QΥ
                                                                                                                                                                                                 B
                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                               рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1792
                                                                                                                                                                                                                                                                                                                                                                                                                                               1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1711
                                                                                                                                                                                                     2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1357
  605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263
ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaLysProGlyAspPheProTrpGln-----ValLeuIleLeuGlyGlyThrThrAla ::: |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluProValCysGlyLeuSerAlaArgThrThrGlyGlyArgIleTyrGlyGlyGlnLys 450
                                       CTGCAGAAAGTGGATGTGCAGTTGATCCCACAGGACCTGTGCAGCGAGGCCTAT-----
                                                                                                                                                                                                                          SerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAsp
::: :: |||:::|||||||| :::
                                                                                                                                                                                                                                                                                                                                                                TGGCCTGGAGAGGTGTCCTTCAAGGTGAGCCGCCTGCTCCTGCACCCG----TACCACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaGlyAlaLeuLeuTyrAspAsnTrpValLeuThrAlaAlaHisAlaValTyrGluGln 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGCAGG---GACGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValCysGluAlaAspGlyPheTrpThrSerSerLysGlyGluLysSerLeuProValCys 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TyrSerCysGluGluThrPheTyrThrMetLysValAsn------AspGlyLysTyr
::: |||||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACGGCAGCGATGAAGAGCAGTGCCAGGAAGGGGTGCCATGT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TrpAspArgProMetProAlaCysSerIleValAspCysGlyProProAspAspLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysProTyrPro---MetAlaProProAsnGlyHisValSerProValGlnAlaLysTyr 318
                                                                                                                      CTGCACTGCTGGATTACGGGCTGGGGCGCCCTTGCGCGAGGGCGCCCCATCAGCAACGCT
                                                                                                                                           GCCGCCGTGCCCCGTCTGCCTGCCCGCGCGC-----
                                                                                                                                                                                                                                                                                   GAGGACAGCCATGACTACGACGTGGCGCCTGCTGCAGCTCGACCACCCGGTGGTGCGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCATGGCCTCCACGGTGCTGTGGACCGTGTTCCTGGGCAAGGTGTGGCAGAACTCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysHisAspAlaSerAlaLeu---AspIleArgMetGlyThrLeuLysArgLeuSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGGGGGCCCTCATCGCTGACCGCTGGGTGATAACAGCTGCCCACTGCTTCCAGGAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCTCCGAGGGTGAGTGGCCATGGCAGGCCAGCCTCCAGGTTCGGGGTCGACACATCTGT 1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAC-----TGTGGCCTCCAGGGCCCCTCCAGC-----CGCATTGTTGGTGGAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCAGTGTGAGGACCGGAGCTGCGTGAAGAAGCCCAACCCGCAGTGTGATGGGCCGCCC 1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACATGCATCTCACTGCCC-----AAGGTCTGTGAT---GGGCAGCCTGATTGTCTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGGTCAAGGAC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleLeuLysAspSerPheSerIlePheCysGluThrGlyTyrGluLeuLeuGlnGlyHis 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCCCTGGAGAGTTCCTCTGTTCTGTGAATGGACTCTGTGTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCTCCCTCACCGGGCCCGGTGTGCGGGTGCACTATGGCTTGTACAACCAGTCGGACCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluSerGlyAspHisThrGlyTrpLysIleHisTyr----ThrSerThrAlaGlnPro
                                                                             LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys
                                                                                                                                                                                                                                                                                                            AspAlaGlyPheAspAsnAspIleAlaLeuIleLysLeuAsnAsnLysValValIleAsn 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyArgValGluTyrIleThrGlyProGlyValThrThrTyrLysAlaValIleGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACGCCGAGAGGATCCCCGTGGTGGCCACGGCCGGGATCACCATCAACTTCACCTCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuProHisArgIleGluThrLysSerAsnThr---ValThrIleThrPheValThrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuProLeuLysSerPheThrAlaValCysGln-------
                                                                                                                                                                                                                                                                                                                                                                                                     -ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -CTGGATGAGAGAAACTGCGTTTGCAGAGCCACATTCCAGTGCAAAGAGGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----TCGGATGAGGAGCAC-----TGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TGCCCCAACGGC-----
                                                                                                                                                                                                   -TCCCACTTCTTCGAGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GCCTGTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GGGACATTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysAspGlySer 353
                                                                                                                                                                                                                                                                                                                                                                2028
                                                                                                                                                                                                                                                                                                                                                                                                                                               1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      373
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 09/918585
PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
                                                                                                                                                                                                                                                                                                                                                  CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/999,832A
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                PRIOR
                                                                                                                                                                                                                                                                 PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                             NTLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic ITLE OF INVENTION: Acids Encoding the Same ILE REFERENCE: P2630PlC63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PPLICANT: Ashkenazi, Avi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2419 TACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ience
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -999-832A-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      665 GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSer 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           625
                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/064249 FILING DATE: 1997-11-03
                                              FILING DATE: 1998-03-11
APPLICATION NUMBER: 60/077649
FILING DATE: 1998-03-11
                                                                                                                            APPLICATION NUMBER: 60/077450 FILING DATE: 1998-03-10 APPLICATION NUMBER: 60/077632
                                                                                                                                                                            APPLICATION NUMBER: 60/066364
FILING DATE: 1997-11-21
                                                                                                                                                                                                                APPLICATION NUMBER: 60/065311 FILING DATE: 1997-11-13
                                                                                               FILING DATE: 1998-0. APPLICATION NUMBER:
                 FILING
                                APPLICATION NUMBER: 60/077791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCGCTGGTTCCTGGCGGGGCTGGTCAGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAAGGATGCCTGTCAGGGTGACTCAGGTGGTCCGCTGGTG---TGCAAGGCACTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                              Williams, P. Mic Wood, William I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stewart, Timothy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gerritsen, Mary E. Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shelton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Godowski, Paul J.
Grimaldi, J. Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gerber, Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Filvaroff, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Paoni, Nicholas F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Napier,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kljavin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gurney, Austin L.
Hillan, Kenneth J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ferrara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Desnoyers, Luc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/09999832A
b. US20020192706A1
                 DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Margaret Ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sophia S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kevin P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-03-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Napoleon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ivar J.
                                                                                                                                                                                                                                                                                                                                                                                                                                            P. Mickey
                                                                                                                                                                                                                                                                                                                                              2001-10-24
                                                                                             60/077641
60/078004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -CTGGGCTGTGGCCGGCCTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2361
                                                                                                                          PRIOR PRIOR
                                                                                                                                                           PRIOR PRIOR
                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                          PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                            PRIOR
                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1998-0 PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/080334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 1998-0: PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/078910
                                                                                                                                                       R FILING DATE: 1998-04
R APPLICATION NUMBER: R
R FILING DATE: 1998-04
R FILING DATE: 1998-04
R FILING DATE: 1998-04
                                        FILING DATE: 1998-04-21
APPLICATION NUMBER: 60/082569
FILING DATE: 1998-04-21
APPLICATION NUMBER: 60/082704
                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/081955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/080165
FILING DATE: 1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/080105
FILING DATE: 1998-03-31
APPLICATION NUMBER: 60/080107
FILING DATE: 1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1998-0: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/079920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-03-27
APPLICATION NUMBER: 60/079728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/079664 FILING DATE: 1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 1998-0
APPLICATION NUMBER:
FILING DATE: 1998-0
           FILING DATE: APPLICATION |
                                                                                                                         APPLICATION NUMBER: 60/081838 FILING DATE: 1998-04-15
                                                                                                                                                                                                                                         FILING DATE: 1998-04-15
APPLICATION NUMBER: 60/081817
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/081071
                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/081049 FILING DATE: 1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 1998-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/080328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-03-27
APPLICATION NUMBER: 60/079786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/079294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1998-03-20 APPLICATION NUMBER: 60/078939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/078886
                                                                                                           APPLICATION NUMBER: 60/082568
                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/081195
                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/081070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/080327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/080194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-03-13
                           1998-04-22
                                                                                                                                                             1998-04-1
                                                                                                                                                                                                                             1998-04-15
                                                                                                                                                                                                                                                                                                                          1998-04-09
                                                                                                                                                                                                                                                                                                                                                            1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                           1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                         1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-03-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-03-
                                                                                                                                                                                             1998-04-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1998-03-25
             60/082804
                                                                                                                                                                                                           60/081819
                                                                                                                                                                                                                                                                                                          60/081229
                                                                                                                                                                                                                                                                                                                                           60/081203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/080333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/079923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/079663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60/079689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/079656
                                                                                                                                                                          60/081952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/078936
```

PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR RIOR RIOR RIOR RIOR PRIOR IOR IOR IOR RIOR PRIOR DR APPLICATION NUMBER: 60/084598
DR FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/084600
DR FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/084627
DR APPLICATION NUMBER: 60/084643
DR APPLICATION NUMBER: 60/085339
DR FILING DATE: 1998-05-07
DR APPLICATION NUMBER: 60/085339
DR FILING DATE: 1998-05-13
DR APPLICATION NUMBER: 60/085338
DR APPLICATION NUMBER: 60/085338
DR APPLICATION NUMBER: 60/085338
DR APPLICATION NUMBER: 60/085338
DR APPLICATION NUMBER: 60/085323
DR FILING DATE: 1998-04-29

PR APPLICATION NUMBER: 60/083500

PR FILING DATE: 1998-04-29

PR APPLICATION NUMBER: 60/083742

PR FILING DATE: 1998-04-30

PR FILING DATE: 1998-05-05

PR FILING DATE: 1998-05-06

PR APPLICATION NUMBER: 60/084414

PR APPLICATION NUMBER: 60/084414

PR APPLICATION NUMBER: 60/084414

PR FILING DATE: 1998-05-06

PR APPLICATION NUMBER: 60/084637

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639

PR FILING DATE: 1998-05-07

PR APPLICATION NUMBER: 60/084639

PR FILING DATE: 1998-05-07

PR APPLICATION NUMBER: 60/084639

PR APPLICATION NUMBER: 60/084639 DR FILING DATE: 1998-04-29
R FILING DATE: 1998-04-29
R FILING DATE: 1998-04-29
DR APPLICATION NUMBER: 60/083499
DR FILING DATE: 1998-04-29
DR APPLICATION NUMBER: 60/083545
DR FILING DATE: 1998-04-29
DR FILING DATE: 1998-04-29 R APPLICATION NUMBER: 60/083554
R FILING DATE: 1998-04-29
R APPLICATION NUMBER: 60/083558
R FILING DATE: 1998-04-29
R APPLICATION NUMBER: 60/083559
R FILING DATE: 1998-04-29 R FILING DATE: 1998-04-23
R APPLICATION NUMBER: 60/083336
R FILING DATE: 1998-04-27
R APPLICATION NUMBER: 60/083322
R FILING DATE: 1998-04-28
R APPLICATION NUMBER: 60/083392 R APPLICATION NUMBER: 60/082700
R FILING DATE: 1998-04-22
R APPLICATION NUMBER: 60/082797
R FILING DATE: 1998-04-22
R APPLICATION NUMBER: 60/082796
R APPLICATION NUMBER: 60/082796
R APPLICATION NUMBER: 1998-04-23 R APPLICATION NUMBER: 60/08
R APPLICATION NUMBER: 65-15
R APPLICATION NUMBER: 60/08
R FILING DATE: 1998-05-15
R APPLICATION NUMBER: 60/08
R FILING DATE: 1998-05-15
R APPLICATION NUMBER: 60/08 R FILING DATE: R APPLICATION N FILING DATE: R APPLICATION N R FILING DATE:
R APPLICATION N
R FILING DATE:
R APPLICATION N FILING DATE: 1998-05-07 APPLICATION NUMBER: 60/084640 FILING DATE: 1998-05-07 FILING DATE: 1998-04-29 APPLICATION NUMBER: 60/083495 FILING DATE: 1998-04-29 N NUMBER: 60/085580 E: 1998-05-15 N NUMBER: 60/085573 E: 1998-05-15 NUMBER: 60/085704: 1998-05-15 NUMBER: 60/085579: 1998-05-15 60/085689 60/085582 60/085700

Alignment Scores:

Qy Db	Qy Db	ДУ	Qy Db	Qy Db	ОУ	Qу	Оу	Qу	Qу	Оу	Qу	Qу	Qу	Qу Db	Qу	US-0	Pred. Score Percen Best 1 Query DB:
469 1852	451 1792	431 1744	411 1711	394 1651	374 1597	354 1549	339 1495	319 1471	300 1417	282 1357	263 1297	.247 1252	229 1210	214 1150	194 1090	9-874-	l. No.: e: ent Simi Local s
AlaGlyAlaLeuLeuTy          :::  GGGGGGCCCTCATCGC	AlaLysProGlyAsp :::    ::: TCCTCCGAGGGTGAG	GluProValCysGly	ValCysGluAlaAs      ACTGCAGGG	TyrSerCysGluGl :::       :: TTCCAGTGTGAGG	SerGlyArgValGl :::    AACGGCAGCGATG <i>I</i>	TrpAspArgProMetPro :::    ACATGCATCTCACTGCCC	LeuProLeuLysSe     CTGGATGA	IleLeuLysAspSe :::       GGGGTCAAGGAC	CysProTyrPro       TGCCCTGGAGAGTT	GluSerGlyAspHi     ATCTCCCTCACCGG	LeuProHisArgII       TACGCCGAGAGGAJ	LysileGlnThrAs        ACGATCCAGAACAG	GluSerPh ::: AGGAGGCAGAAGTA	SerIle ::: CACCTCACGGTGCC	GlyGluLeuSerSe	-198-2 (1-686)	: Lmilarity: L Similarity:
rAspAsnTr        TGACCGCTG	PheProTrpGln- :::        TGGCCATGGCAGG	LeuSerAlaArg      TCCAGGGCCCC	AASpGlyPheTrpThrSe         GACGGC	.uThrPheTyrThi :: ACCGGAGCTGCGTO	ArgValGluTyrIleThrGlyProGlyValTh         AGCGATGAAGAGCAGTGCCAGGAAGGGGTGCC	AlaCys	rPheThrAl GAGAAACTG	rPheSerIlePhe	-MetAlaProPro ::: CCTCTGTTCTGTG	lsThrGlyTrpLysIleHi     :::::!  gcccccrrgrgcgggrgc <i>r</i>	;IleGluThrLysSerAs      ATCCCCGTGGTGGCCAC	spArgGluGluHisGl     3GAGG	PheAspValGluThrHi :::   :::  PATGATTTGCCG	-SerLeuGluGl       :::  CTCTCTGGACTA	uSerSerProGluTyrProAr     :::    :::    CAGCACCCCGTACTTCCCCAG	x US-09-999-832	4.9e-34 444.00 45.00% 29.42% 11.81%
PValLeuThrAlaAlaHis     :::            GGTGATAACAGCTGCCCAC	ValLeuIleL ::: CCAGCCTCCAGGTTC	rThrGlyGlyArg :::: CAGCCGC	erSerLysGlyGluLys      TCGGATGAGGAGCAC	Sn    ACCCGC	rThrT ATGT-	SerIleValAspCysGlyP :::         AAGGTCTGTGATGGGC	aValCysGln       :::  CGTTTGCAGAGCCACATTCC	CysGluThrGlyTyrG      TGCCCCAACGGC	nGlyHisValSerP      TGGACTCTGTGTCC	STYT 	nThrValThr       : : :       	yProPheCysGly-        CTGTGTGGCT	sProGluThrLeu	uGlyPheSerValIleLe      :::::  cggcTTGGCCCTCTGGTT	gProTyrProLysL     CTACTACTCGCCCC	2A-168 (1-3143)	Length: Matches: Conservative: Mismatches: Indels: Gaps:
isalavalTyrGluGln    	LeuGlyGlyThrThrAla      CGGGGTCGACACATCTGT	IleTyrGlyGlyGlnLys           arrgrrggrggagcrgrg	ysSerLeuProValCys      ACTGT	AspGlyLysTyr       ::: AGTGTGATGGGCGGCCC	YrLysAlaValIleGln	ProProAspAspLeuPro         AGCCTGATTGTCTC	LysaspGlySer     :::      AGTGCAAAGAGGACAGC	luLeuLeuGlnGlyHis	roValGlnAlaLysTyr 	ThrSerThrAlaGlnPro :::     TACAACCAGTCGGACCCC	IleThrPheValThrAsp         :::  ATCAACTTCACCTCCCAG	LysThr ::: TGCGCATCCTGCAGCCC	CysProTyrAspPheLeu      rgcacccagggccagTgg	:LeuAspPheVal      TTTGATGCCTATGCACTG	.euSerSerCysThrTyr :::    :::: !AAACCCACTGCTCCTGG		3143 153 81 200 86 86
1911	1851	450 1791	1743	1710	1650	1596	353	1494	318	299	281	262	246 1251	228 1209	213 1149		

```
δÃ
                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                δÃ
Search completed: January 24, 2003, 01:31:17 Job time : 207 secs
                                                                             밁
                                                                                                              Ş
                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                       665 GlnTyrGlyValTyrThrLysValIleAsnTyrIleProTrpIleGluAsnIleIleSer 684
::::|||||||||||||:::::::
2419 TACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACC 2478
                                                                                                                                                546 SerAsnIleThrProIleCysLeuProArgLysGluAlaGluSerPheMetArgThrAsp 565
::: |||:::||||||||||||| :::
2089 GCGGCGTGCGCCCGTTGCCTGCCCGCGCGCC-----TCCCACTTCTTCGAGCCCGGC 2142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1972 TGGCCTGGAGAGGTGTCCTTCAAGGTGAGCCGCCTGCTCCTGCACCCG---TACCACGAA 2028
                                                                                                                                                                                                                                                                                                         2257 ------CGCTACCAGGTGACGCCACGCATGCTGTGTGCCGGCTACCGCAAGGGC 2304
                                                                                                                                                                                                                                                                                                                                                                                     2203 CTGCAGAAAGTGGATGTGCAGTTGATCCCACAGGACCTGTGCAGCGAGGCCTAT----- 2256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1912
                                                                                                                                                                                                                              2305 AAGAAGGATGCCTGTCAGGGTGACTCAGGTGGTCCGCTGGTG---TGCAAGGCACTCAGT 2361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625 GlyLysAspSerCysArgGlyAspSerGlyGlyAlaLeuValPheLeuAspSerGluThr 644
                                                                                                                                                                                                                                                                                                                                  605 ProProTyrProArgGlySerValThrAlaAsnMetLeuCysAlaGlyLeuGluSerGly 624
                                                                                                                                                                                                                                                                                                                                                                                                                 585 LeuMetTyrValAspIleProIleValAspHisGlnLysCysThrAlaAlaTyrGluLys 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           507 ---ProHisTyrThrGlnAlaTrpSerGluAlaValPheIleHisGluGlyTyrThrHis 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489 LysHisAspAlaSerAlaLeu···AspIleArgMetGlyThrLeuLysArgLeuSer··· 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCATGGCCTCCACGGTGCTGTGGACCGTGTTCCTGGGCAAGGTGTGGCAGAACTCGCGC 1971
```

THIS PAGE BLANK (USPTO)